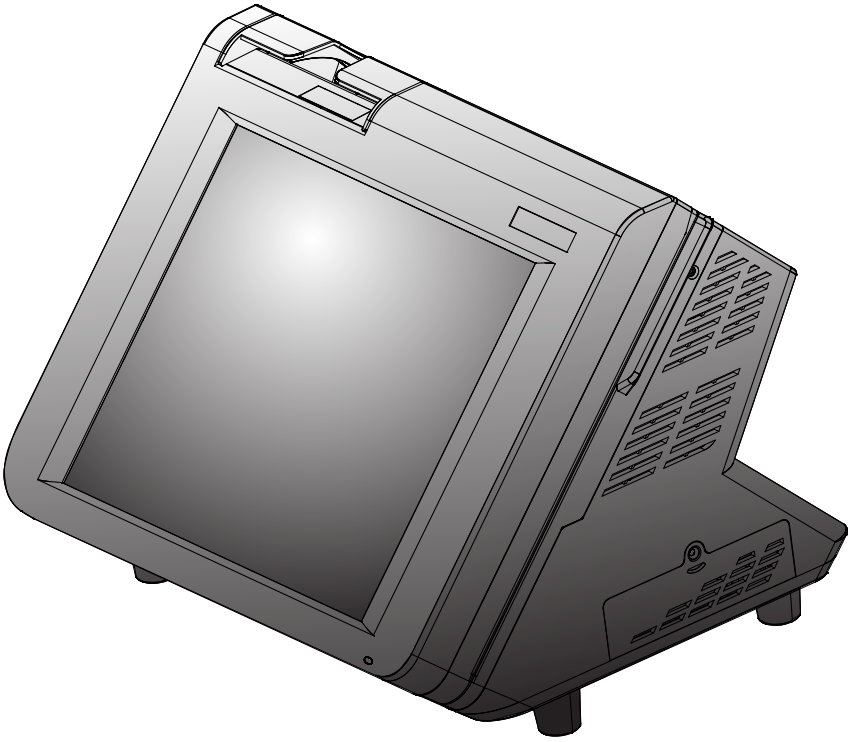
PARTNER

All in one POS Terminal

PT-6212

Service Manual



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Trademark recognition

All product names used in this manual are the properties of their respective owners and are acknowledged.

Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and the receiver.

Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

This device may not cause harmful interference, and

This device must accept any interference received, including interference that may cause undesired operation.

About this manual

The service manual provides service information for the PT-6212. This manual is designed to help train service personnel to locate and fix failing parts on the machine.

This manual consists of the following sections:

Chapter 1 Getting Started:
This section covers unpacking and checking the package contents, and identifying components.

Chapter 2 BIOS Setup Utility:
The BIOS chapter provides information on navigating and changing settings in the BIOS Setup Utility.

Chapter 3 Installing Drivers and Software:
This chapter provides information on installing drivers for supported operating systems.

Chapter 4 Locating the Problem:
Refer to this chapter to locate the failing part or cause of the problem that requires servicing.

Chapter 5 Replacing Field Replaceable Units (FRUs):
This chapter provides drawings and instructions to replace all FRUs.

Appendix: Optional Components, Exploded Diagram, and Parts List:
The appendix includes an exploded diagram of the machine and the parts list and order number for each part.

Safety information

Before servicing the machine, read the safety information under “Safety and precautions” on page 53.

Revision history

Version 1.0, August 2009

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CHAPTER 1
GETTING STARTED

This chapter describes how to unpack and identifying components on the device. The following topics are described.

Unpacking the machine

It is a good idea to save the packaging materials and shipping box in case that machine needs to be returned for service. Please un-pack and re-pack the machine terminal as shown in Figure 1.1.

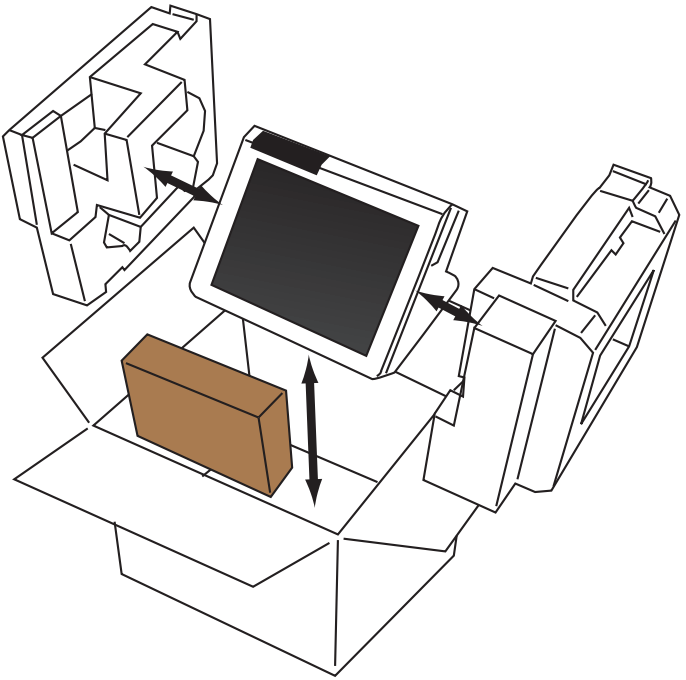


Figure 1.1 Unpacking the machine

Identifying components

This section describes the parts and connectors on the machine.

Front-right view

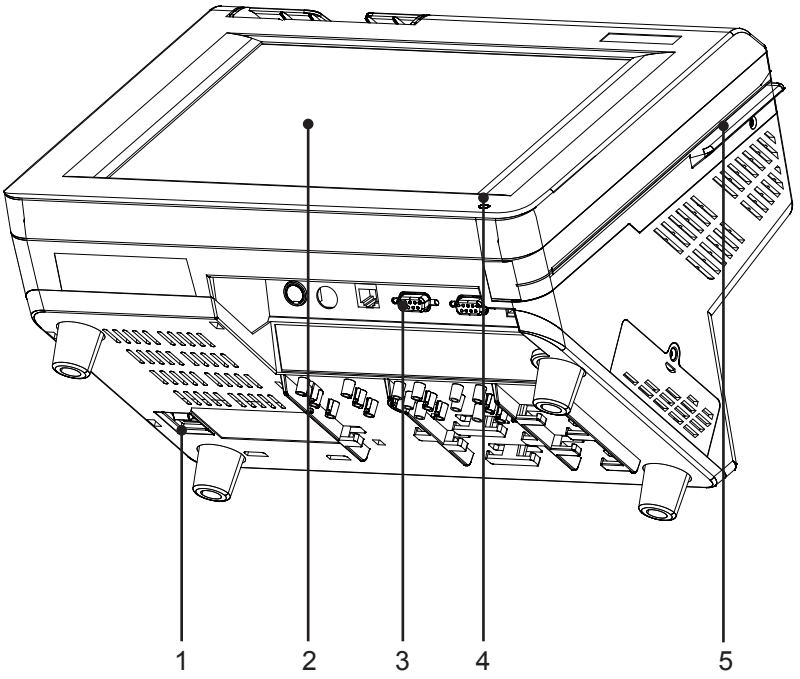


Figure 1.2 Front-right view

Component	Description
1	Power Button
2	12.1-inch TFT LCD; 5-wire Resistive touch
3	IO Panel
4	LED Power Indicator
5	Triple-track MSR

Rear view

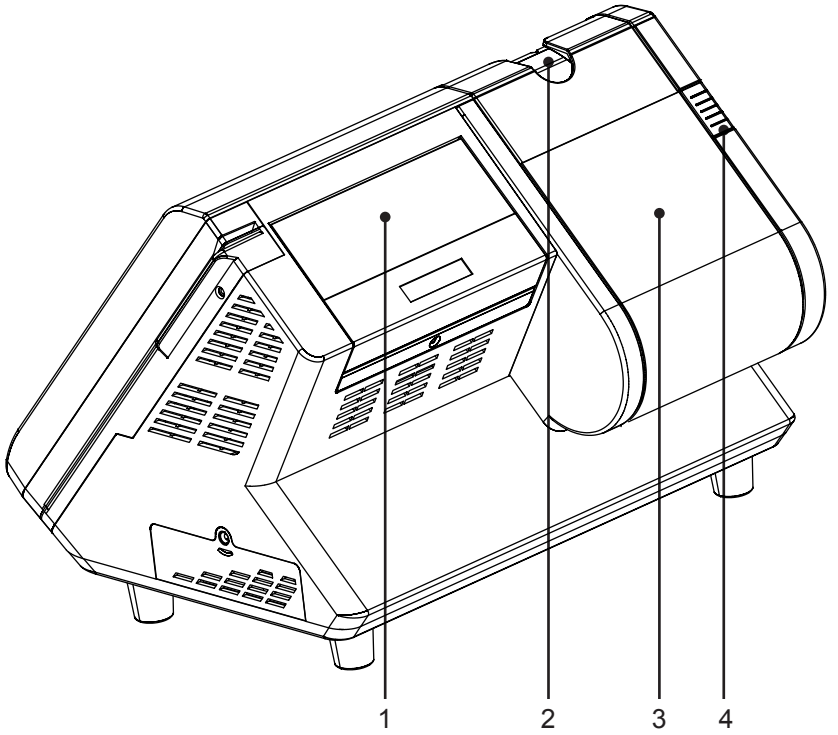


Figure 1.3 Rear view

Component	Description
1	2x20 VFD customer display
2	Printer paper exit
3	80mm thermal receipt printer
4	Printer button

I/O connectors

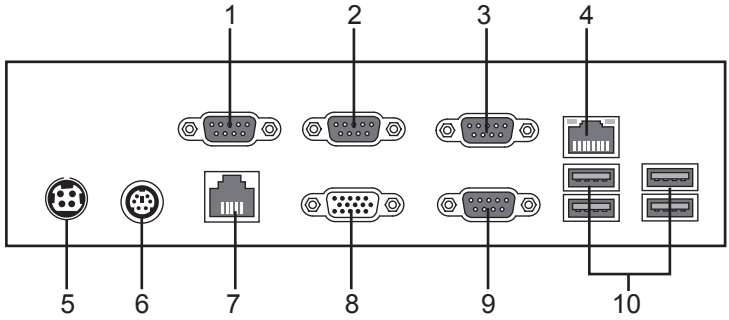


Figure 1.4 PT-6212 I/O connectors

Connector	Description
1	COM4 port
2	COM3 port
3	COM2 port
4	LAN port (RJ-45)
5	12V power connector
6	PS/2 keyboard port
7	RJ-11 cash drawer port
8	VGA port
9	COM1 port
10	USB ports

CHAPTER 2
BIOS SETUP

The primary function of the BIOS (Basic Input and Output System) is to identify and initiate component hardware. The BIOS parameters are stored in non-volatile BIOS memory (CMOS). CMOS contents don't get erased when the computer is turned off. The following topics are described in this chapter.

About the Setup Utility

The BIOS Setup Utility enables you to configure the following items:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

This Setup Utility should be used for the following:

- When changing the system configuration
- When a configuration error is detected and you are prompted to make changes to the Setup Utility
- When trying to resolve IRQ conflicts
- When making changes to the Power Management configuration
- When changing the User or Supervisor password

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Press the delete key <Delete> to access the Award BIOS Setup Utility:

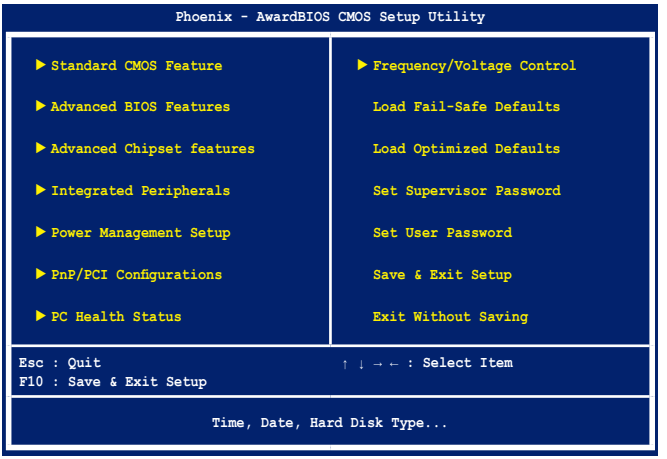


Figure 2.1 Main BIOS menu

BIOS navigation keys

The BIOS navigation keys are listed below.

Key	Function
←↑↓→	Scrolls through the items on a menu
+/–/PU/PD	Modifies the selected field's values
Esc	Exits the current menu
F1	Displays a screen that describes all key functions
F5	Loads previously saved values to CMOS
F6	Loads a minimum configuration for troubleshooting
F7	Loads an optimum set of values for peak performance
F10	Saves the current configuration and exits Setup
Shift + F2	Changes the color of the BIOS menu

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ►) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

Standard CMOS features

Selecting Standard CMOS Features on the main menu displays the following menu:

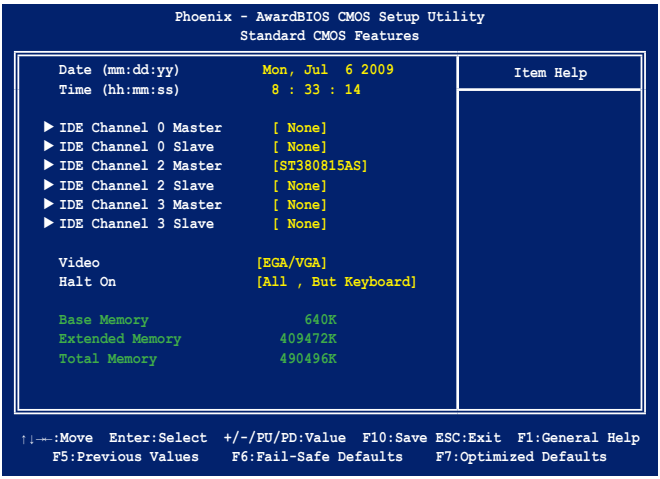


Figure 2.2 Standard CMOS Features menu

Date and Time

The Date and Time items show the current date and time held by the machine. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

Video

These fields is used to select the default video device.

Halt On

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

Base Memory, Extended Memory, and Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

- Base Memory – This field displays the amount of conventional memory detected by the system during boot.
- Extended Memory – This field displays the amount of extended memory detected by the system during boot.
- Total Memory – This field displays the total amount of memory (Base and Extended) detected by the system during boot.

IDE Channel 0/2/3 Master/Slave

This field is used to configure the IDE hard drive installed in the system. Move the cursor to highlight the IDE Primary/Secondary Master/Slave fields and press <Enter>. The IDE Primary Master submenu opens:

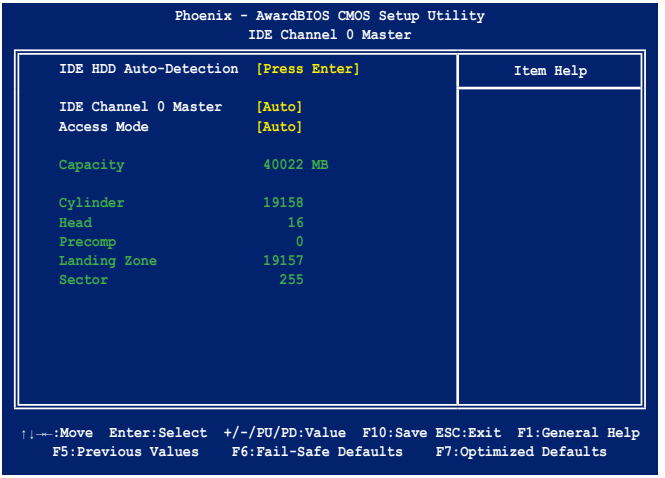


Figure 2.3 IDE Primary Master submenu

IDE HDD Auto-Detection

Press Enter while this item is highlighted if you want the Setup Utility to automatically detect and configure a hard disk drive on the IDE channel.

> **NOTE**
>
> ***If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.***

IDE Channel 0/1/2/3 Master/Slave

If you leave this item at Auto, the system will automatically detect and configure any IDE devices it finds. If it fails to find a hard disk, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the fields described below:

- Capacity – displays the capacity of the HDD in megabytes (MB).
- Cylinder – indicates the number of cylinders that the HDD has. A cylinder is the sum total of all tracks that are in the same location on every disk surface.
- Head – displays the number of heads in the HDD. A head is a device that reads and writes data on the hard disk.
- Precomp – displays the track where precompensation is initiated. Precompensation is a feature whereby the HDD uses a stronger magnetic field to write data in sectors that are closer to the center of the disk. In CAV recording, in which the disk spins at a constant speed, the sectors closest to the spindle are packed tighter than the outer sectors.
- Landing Zone – displays the location of the safe non-data area on a hard disk that is used for parking the read/ write head.
- Sector – displays the number of sectors available on the HDD. A sector is the smallest unit of storage space on a disk.

Access Mode

This item defines special ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive.

Advanced BIOS Features

Selecting Advanced BIOS Features on the main menu opens up this screen:

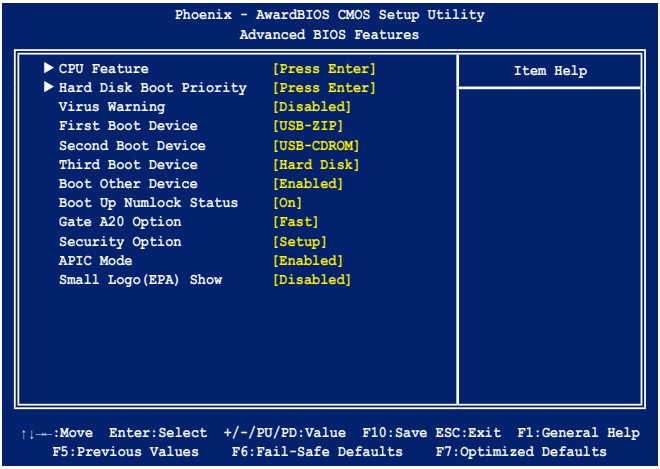


Figure 2.4 Advanced BIOS Features menu

Virus Warning

When enabled, this item provides protection against viruses that try to write to the boot sector and partition table of the hard disk drive. You need to disable this item when installing an operating system. We recommend that you enable anti-virus protection as soon as you have installed an operating system.

First/Second/Third Boot Device

The BIOS loads the operating system from the disk drives in the sequence selected in these three fields.

Boot Other Device

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Boot Up Numlock Status

This field is used to select power on state for NumLock.

Gate A20 Option

This feature is used to determine the method by which Gate A20 is controlled.

Option	Description
Normal	The system will force the chipset to use the slow keyboard controller to do the switching.
Fast	The system will allow the chipset to use its own 0x92 port for faster switching.

Security Option

Select whether the password is required every time the system boots or only when you enter setup.

Option	Description
System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

APIC Mode

This item is used to activate the ACPI (Advanced Configuration and Power Management Interface) Mode.

IMPORTANT

ACPI is a power management specification that makes hardware status information available to the operating system. ACPI enables a PC to turn its peripherals on and off for improved power management. It also allows the PC to be turned on and off by external devices, so that mouse or keyboard activity wakes up the machine.

Small Logo(EPA) Show

This item enables you to show the company logo on the bootup screen.

CPU Feature

Selecting CPU Feature opens up this screen.

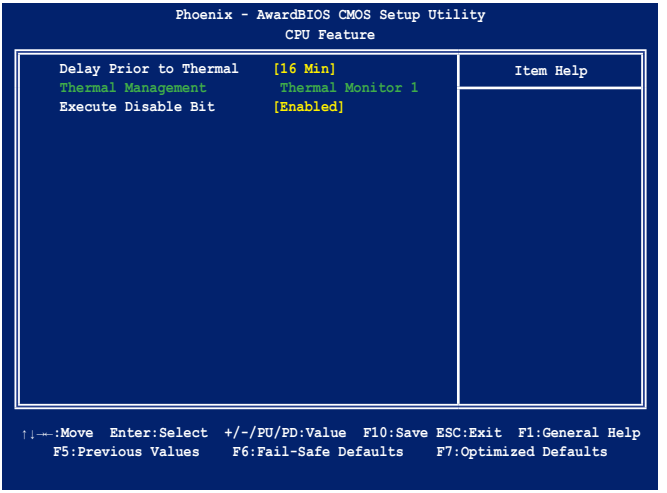


Figure 2.5 CPU Feature submenu

Delay Prior to Thermal

The Delay Prior To Thermal BIOS feature controls the activation of the Thermal Monitor's automatic mode. It allows you to determine when the Pentium 4's Thermal Monitor should abe activated in automatic mode after the system boots. For example, with the default value of 16 minutes after the system starts booting up.

Execute Disable Bit

When disabled, forces the XD feature flag to always return 0.

Hard Disk Boot Priority

Selecting Hard Disk Boot Priority opens up this screen.

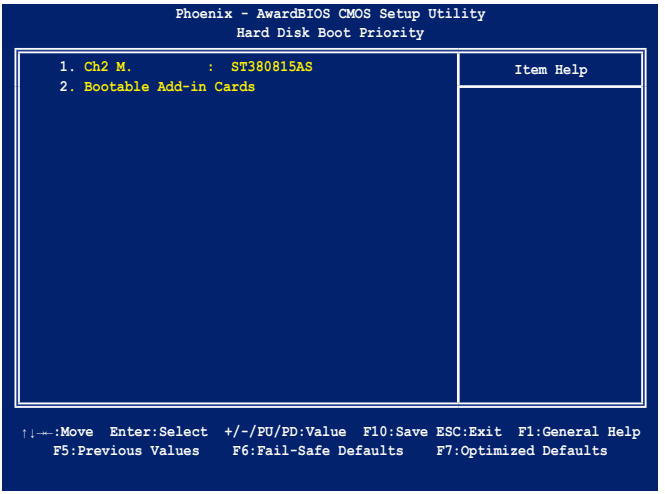


Figure 2.6 Hard Disk Boot Priority menu

Hard Disk Boot Priority

This screen allows setting the boot priority. Use the PageUp and PageDown to change the order. And then his Esc to set.

Advanced Chipset Features

This option displays critical timing parameters of the mainboard. Leave the items on this menu at their default settings unless you are very familiar with the technical specifications of the system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into the system.

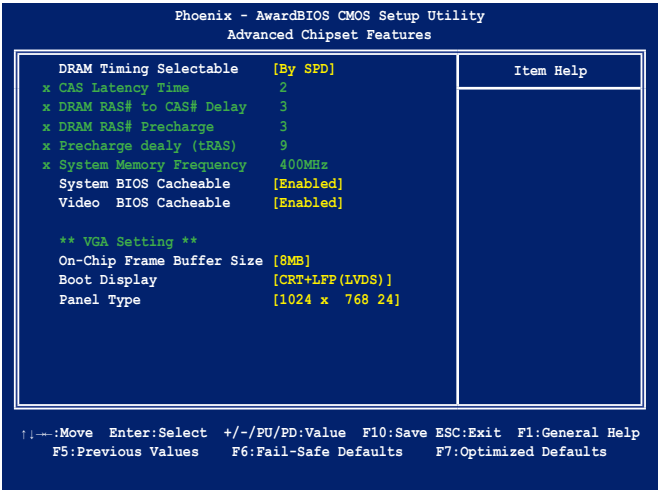


Figure 2.7 Advanced Chipset Features menu

DRAM Timing Selectable

Set this to the default value to enable the system to automatically set the SDRAM timing by SPD (Serial Presence Detect). SPD is an EEPROM chip on the DIMM module that stores information about the memory chips it contains, including size, speed, voltage, row and column addresses, and manufacturer.

CAS Latency Time

When the ***DRAM Timing Selectable*** is set to [Manual], this field is adjustable. When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

DRAM RAS# to CAS# Delay

When the ***DRAM Timing Selectable*** is set to [Manual], this field is adjustable. This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. *Fast* gives faster performance; and *Slow* gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

DRAM RAS# Precharge

When the ***DRAM Timing Selectable*** is set to [Manual], this field is adjustable. This setting controls the number of cycles for Row Address Strobe (RAS) to be allowed to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system.

Precharge dealy (tRAS)

When the ***DRAM Timing Selectable*** is set to [Manual], this field is adjustable. This item controls the number of cycles for Row Address Strobe (RAS) to be allowed to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system.

System Memory Frequency

When the ***DRAM Timing Selectable*** is set to [Manual], this field is adjustable. This item allows you select the memory frequency.

System/Video BIOS Cacheable
These items allow the video and/or system to be cached in memory for faster execution. We recommend that you leave these items at the default value.

** VGA Setting **
The following items allow you to configure the settings about On-Chip VGA.

On-Chip Frame Buffer Size
This item is used to select the video frame buffer size.

Boot Display
If you connect an external display to this machine, you can use this setting to turn off the LCD and only use the external display. To use dual displays this must be set to CRT+LFP(LVDS).

Panel Type
This setting auto-detects the panel resolution and other panel settings. Unless you changed the panel, leave this setting at its default.

Integrated Peripherals

This option defines the operation of peripheral components on the system's input/output ports.

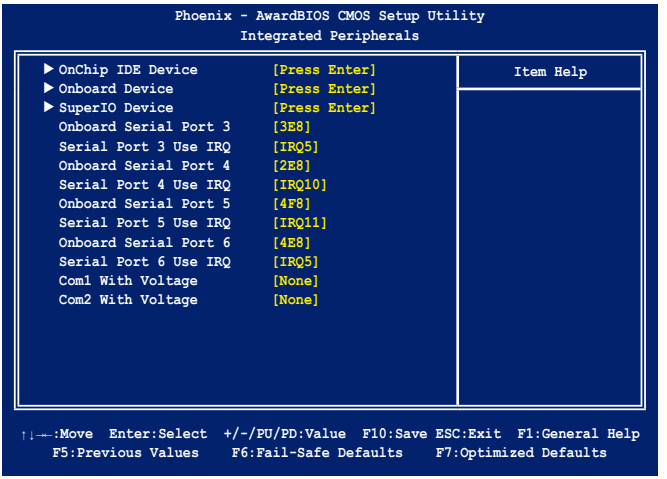


Figure 2.8 Integrated Peripherals menu

Onboard Serial Port 3/4/5/6

These items allow you to select an address for the third and fourth serial ports. The default setting is 3E8/2E8/4F8/4E8.

Serial Port 3/4/5/6 Use IRQ

These items allow you to select an corresponding interrupt for the third and fourth serial ports. The default setting is IRQ5/IRQ10/IRQ11/IRQ5.

Com1/2 With Voltage

COM1/2 port can be set to supply both data and power to the peripherals that connect to them. Check if the device you connect needs power from the COM1/2 port or if it has its own power supply. The factory setting is None.

IMPORTANT

The voltage for the COM ports is set at None at the factory. However, for example to provide power to an installed customer display, this setting must be set at 12V for the corresponding COM port. For a 5V device such as a barcode scanner, the setting should be 5V.

► OnChip IDE Device

Use this item to enable or disable the PCI IDE channels that are integrated on the mainboard. Select the item and press <Enter> to open the following menu:

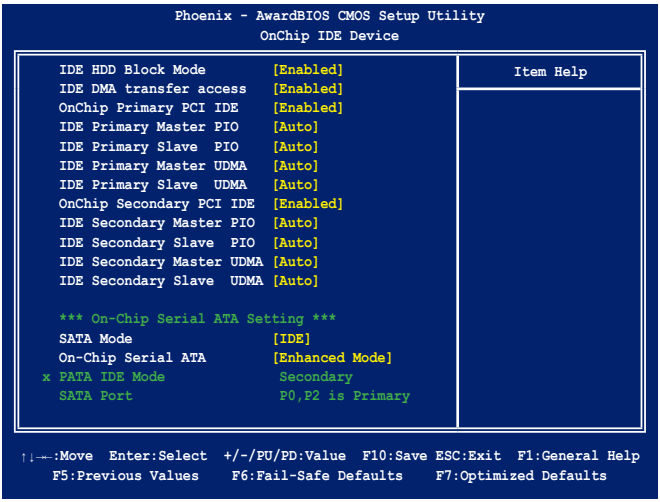


Figure 2.9 OnChip IDE Device submenu

IDE HDD Block Mode

Enable this field if the IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

IDE DMA Transfer Access

This BIOS feature allows you to enable or disable DMA (Direct Memory Access) support for all IDE devices.

If you disable this BIOS feature, the BIOS will disable DMA transfers for all IDE drives. They will revert to PIO mode transfers.

If you enable this BIOS feature, the BIOS will enable DMA transfers for all IDE drives. The proper DMA mode will be detected at boot-up. If the drive does not support DMA transfers, then it will use PIO mode instead.

It is highly recommended that you leave this BIOS feature at the default setting of Enabled. If the drive supports DMA transfers, the proper DMA transfer mode will be enabled for that drive, allowing it to burst data at anywhere from 33MB/s to 133MB/s (depending on the transfer mode supported).

On-Chip Primary/Secondary PCI IDE

Use this item to enable or disable the PCI IDE channels that are integrated on the mainboard.

IDE Primary/Secondary Master/Slave PIO

Each IDE channel supports a master device and a slave device. These items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

IDE Primary/Secondary Master/Slave UltraDMA

Each IDE channel supports a master device and a slave device. This mainboard supports UltraDMA technology, which provides faster access to IDE devices. If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this mainboard in order to use an UltraDMA device.

*** On-Chip Serial ATA Setting ***
The following items allow you to configure the settings about On-Chip Serial ATA.

SATA Mode
This feature allows users to select SATA mode.

On-Chip Serial ATA
This feature allows users to select the SATA function modes. Setting at Disabled will disable SATA controller. Set at Auto will allow the BIOS to arrange it. Setting Combined Mode will make PATA and SATA combined. Max. of 2 IDE drives in each channel (primary master/slave; secondary master/slave). Enhanced Mode allows max. of 6 IDE drives supported. SATA Only will make SATA operates in legacy mode.

PATA IDE Mode
This option determines whether the IDE devices are considered the primary or secondary ports on the system.

SATA Port
This option controls the operation speed of the SATA 2 ports, allowing for either legacy SATA-150 operation or full speed SATA 2 operation. Note that this setting is enabled only while the On-Chip Serial ATA option is set to Enhanced Mode.

► Onboard Device

Use this item to enable or disable the PCI devices that are integrated on the mainboard. Select the item and press <Enter> to open the following menu:

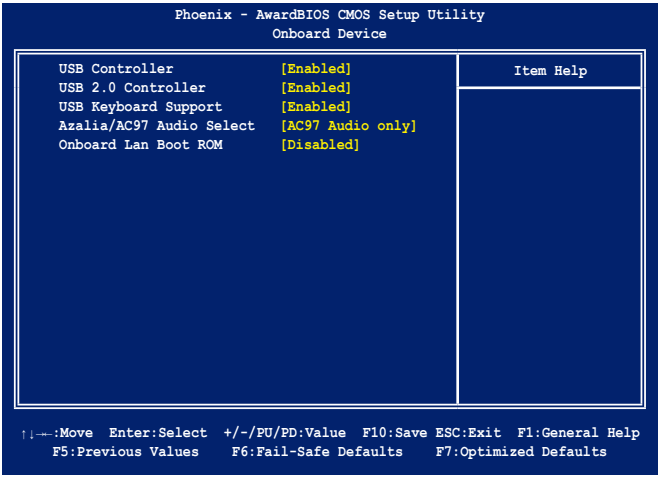


Figure 2.10 Onboard Device submenu

USB Controller
This item must be enabled to use the Universal Serial Bus ports on the mainboard.

USB 2.0 Controller
The USB 2.0 Controller item allows USB 2.0 functionality.

USB Keyboard Support
Enable this item if you plan to use a keyboard connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

Azalia/AC97 Audio Select
This item allows you to select the Azalia/AC97 Audio support.

Onboard Lan Boot ROM
This feature allows users to enable or disable the onboard Lan boot ROM to boot system.

► SuperIO Device

Use this item to change settings for I/O devices. Select the item and press <Enter> to open the following menu:

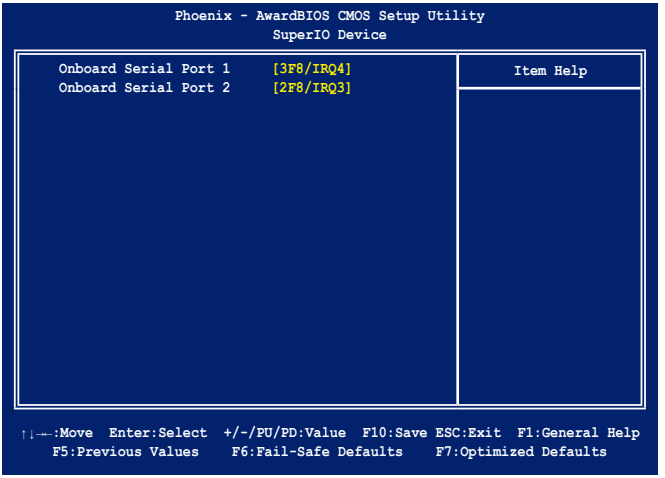


Figure 2.11 SuperIODevice submenu

Onboard Serial Port 1/2

These items are used to assign the I/O address and IRQ for the onboard serial port 1/2. The default setting is (3F8/IRQ4) / (2F8/IRQ3).

Power Management Setup

Use these items to control system power management. Modern operating systems take care of much of the power management. This mainboard supports ACPI (Advanced Configuration and Power Interface).

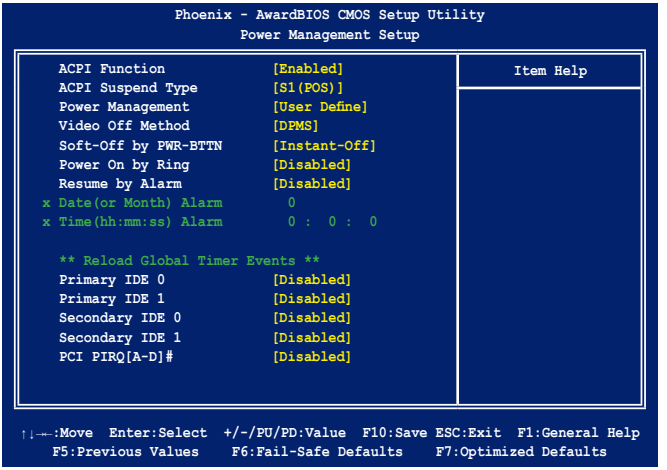


Figure 2.12 Power Management Setup menu

ACPI Function

This mainboard supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

> **NOTE** ***ACPI is a power management specification that makes hardware status information available to the operating system. ACPI enables a PC to turn its peripherals on and off for improved power management. It also allows the PC to be turned on and off by external devices, so that mouse or keyboard activity wakes up the machine.***

ACPI Suspend Type

Use this item to define how the system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3(STR), the suspend mode is a suspend to RAM - the system shuts down with the exception of a refresh current to the system memory.

Power Management

This item acts like a master switch f or the power-saving modes and hard disk timeouts. If this item is set to Max Saving, power-saving modes occur after a short timeout. If this item is set to Min Saving, power-saving modes occur after a longer timeout. If the item is set to User Define, you can define timeouts for the power-saving modes.

Video Off Method

This item defines how the video is powered down to save power.

Soft-Off by PWR-BTN

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the normal power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

Power On by Ring
Use this item to enable modem activity to wakeup the system from a power saving mode.

Resume by Alarm
When set to Enabled, the following two fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

Date (of Month) Alarm
When set to "0" the system powers on everyday at the time specified in the "Time (hh:mm:ss) Alarm" field. Select a date from 1 to 31 for the system to power on at the time specified in the "Time (hh:mm:ss) Alarm" field.

Time (hh:mm:ss) Alarm
Set the time for the system to power on as defined in the 'Date (of Month) Alarm" field. The time set in this field must be later than the time in the RTC time as shown in the "Standard CMOS Features" on page 9.

** Reload Global Timer Events **

Primary IDE0
When the primary master HDD is working, the system timer will be re-loaded and the system will not go into suspend mode.

Primary IDE1
When the primary master HDD is working, the system timer will be re-loaded and the system will not go into suspend mode.

Secondary IDE0
When the primary master HDD is working, the system timer will be re-loaded and the system will not go into suspend mode.

Secondary IDE1
When the primary master HDD is working, the system timer will be re-loaded and the system will not go into suspend mode.

PCI PIRQ[A-D]#
When the PCI PIRQ[A-D]# has been alerted, the system timer will be re-loaded and the system will not go into suspend mode.

PnP/PCI Configurations

This option configures how PnP (Plug and Play) and PCI expansion cards operate in the system. Both the ISA and PCI buses on the mainboard use system IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations menu; otherwise, the mainboard will not work properly. Selecting "PnP/PCI Configurations" on the main menu displays this menu:

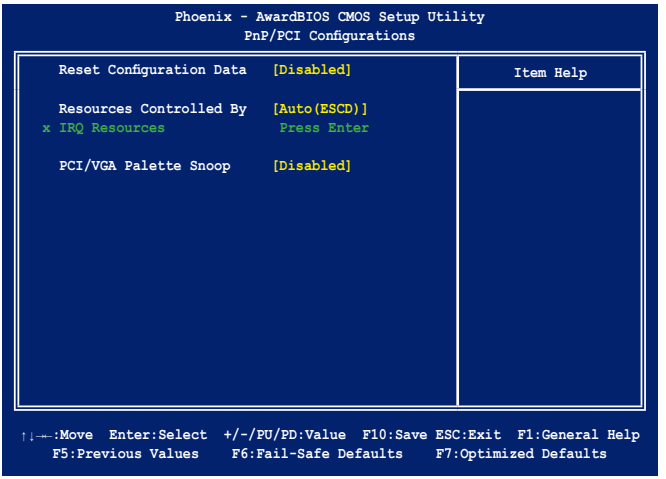


Figure 2.13 PnP/PCI Configuration menu

Reset Configuration Data

If you enable this item and restart the system, any PnP configuration data stored in the BIOS Setup is cleared from memory.

Resources Controlled By

You should leave this item at the default Auto (ESCD). Under this setting, the system dynamically allocates resources to plug and play devices as they are required. If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources sub-menu.

PCI/VGA Palette Snoop

This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This mainboard includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

► IRQ Resources

This menu can only be accessed when the Resources Controlled by menu is set to Manual.

In the IRQ Resources sub-menu, if you change any of the IRQ assignations to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources sub-menu.

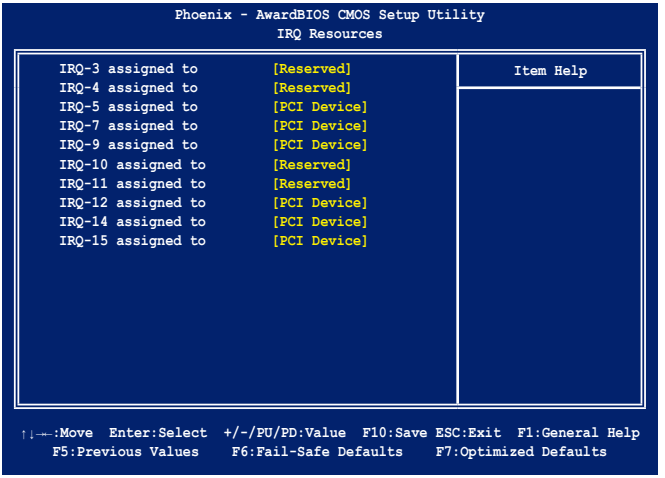


Figure 2.14 IRQ Resources submenu

PC Health Status

On mainboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, and critical temperatures. Several fields are for information only and are not configurable.

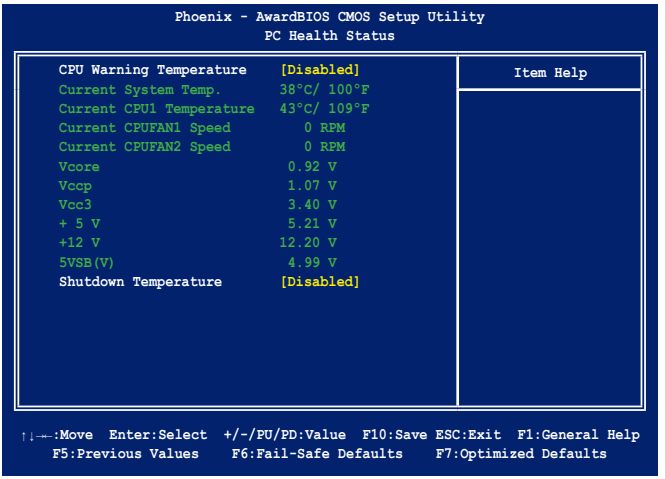


Figure 2.15 PC Health Status menu

These items display the current status of system temperatures and power status.

CPU Warning Temperature

This item when enabled will sound an alarm when the temperature exceeds a particular setting.

Shutdown Temperature

This item allows setting the shutdown temperature. Once enabled, the machine will automatically shutdown when the temperature reaches the limit specified.

Frequency/Voltage Control

Use these items to control system frequency and voltage.

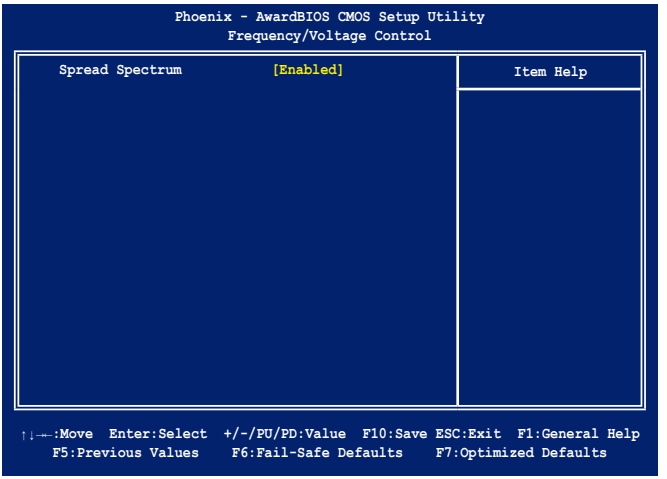


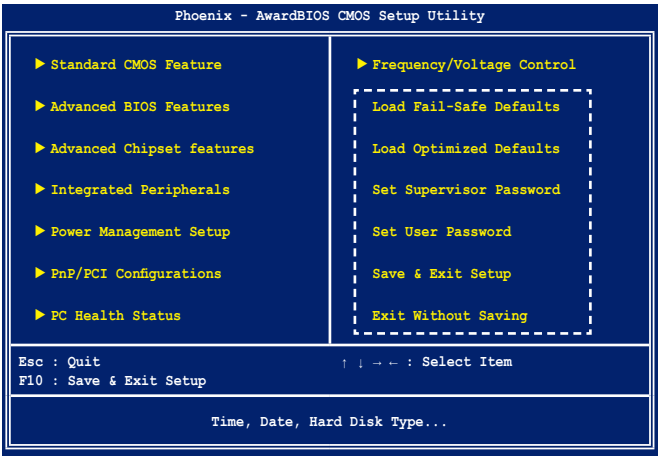
Figure 2.16 Frequency/ Voltage Control menu

Spread Spectrum

When the motherboard clock generator pulses, the extreme values (spikes) of the pulses creates EMI (Electromagnetic Interference). The Spread Spectrum function reduces the EMI generated by modulating the pulses so that the spikes of the pulses are reduced to flatter curves. If you do not have any EMI problem, leave the s etting at Disabled for optimal system stability and performance.

Other BIOS Options

This section covers the other options that are available from the main menu:



Load Fail-Safe Defaults

This option opens a dialog box that lets you load fail-safe defaults for all appropriate items in the Setup Utility. The fail-safe defaults place no great demands on the system and are generally stable. If the system is not functioning correctly, try loading the fail-safe defaults as a first step in getting the system working properly again. If you only want to load fail-safe defaults for a specific option, select and display that option, and then press <F6>.

Follow these instructions: to load the fail-safe defaults:

1. From the main menu, scroll to Load Fail-Safe Defaults.
2. Press <Enter> to open the Load Setup Fail-Safe Defaults menu.
3. Press <Y>.
4. Press <Enter> to load the defaults.

Load Optimized Defaults

This option opens a dialog box that lets you load optimized defaults for all appropriate items in the Setup Utility. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you load the optimized defaults when the hardware does not support them. If you only want to load Setup defaults for a specific option, select and display that option, and then press <F7>.

Follow these instructions to load the optimized defaults:

1. From the main menu, scroll to Load Optimized Defaults.
2. Press <Enter> to open the Load Optimized Defaults menu.
3. Press <Y>.
4. Press <Enter> to load the defaults.

Set Supervisor and User Passwords

These items can be used to install a password. A Supervisor password takes precedence over a User password, and the Supervisor can limit the activities of a User. To install a password, follow these steps:

1. Highlight the item Set Supervisor/User Password on the main menu and press <Enter>.
2. The password dialog box appears.

3. If you are installing a new password, type in the password. You cannot use more than eight characters or numbers. The Set Supervisor/User Password item differentiates between upper and lower case characters. Press <Enter> after you have typed in the password. If you are deleting a password that is already installed press <Enter> when the password dialog box appears. You see a message that indicates that the password has been disabled.

4. Press any key. You are prompted to confirm the password.

5. Type the password again and press <Enter>, or press <Enter> if you are deleting a password that is already installed.

Write the passwords down and keep them in a safe place.

IMPORTANT

If you do not save changes when you exit BIOS, changes to the passwords are saved anyway.

Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

NOTE

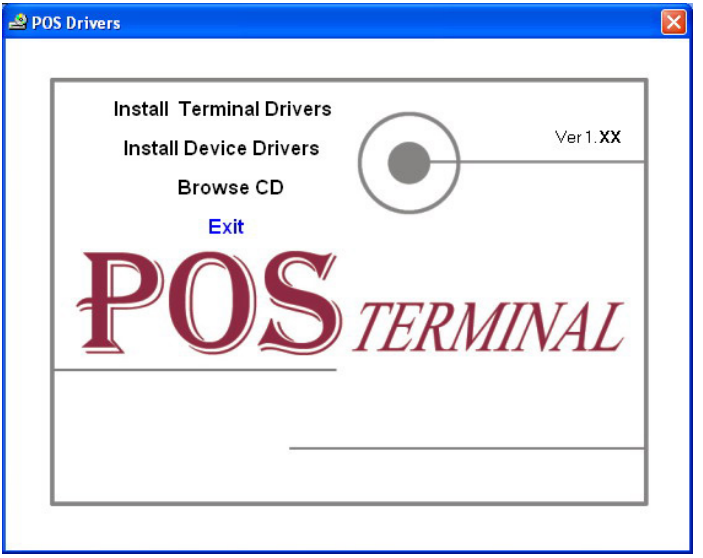
If you have made settings that you do not want to save, use the "Exit Without Saving" item and press Y to discard any changes you have made.

This section explains how to install the drivers for the PT-6212.

The following topics are described.

Driver auto installation

Use an external CD-ROM drive to install the drivers or copy the drivers to a USB flash drive and then plug to the machine. When you insert the CD ROM the following screen appears.

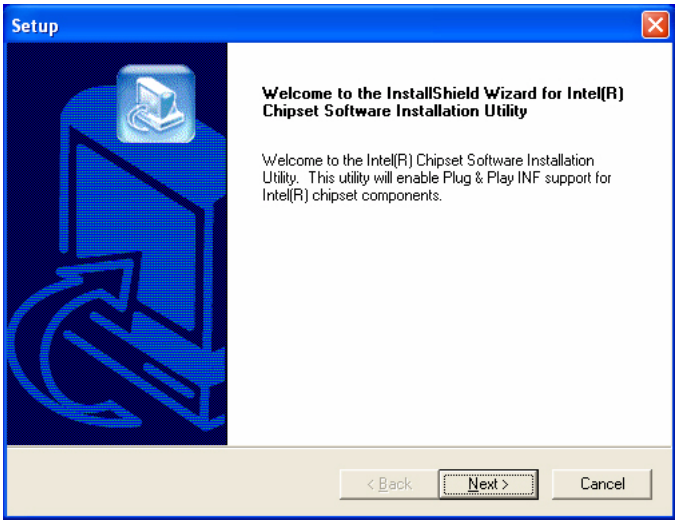


Check PT-6212 that is listed under the “Install Terminal Drivers” and “Install Device Drivers” menus.

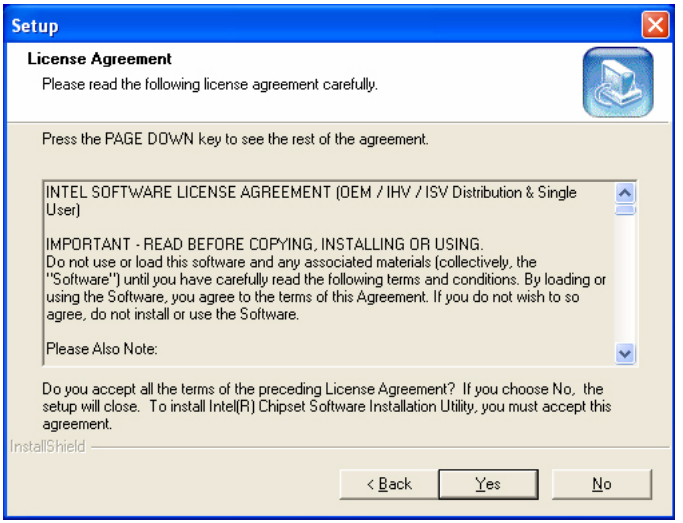
Intel Chipset Driver

The Intel Chipset Software Utility updates the Windows XP/2000 INF files so that the Intel chipset is correctly configured. Follow these instructions to install the chipset software :

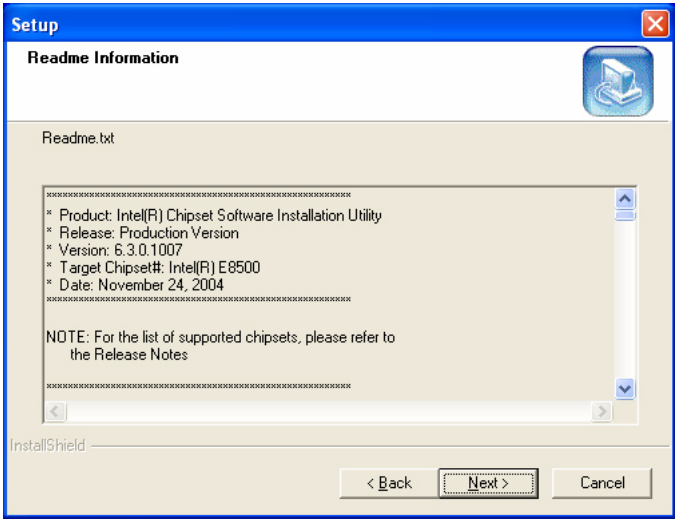
1. Browse to the \DRIVER\chipset\Intel\Inf folder.
2. Double-click setup.exe. The following screen appears. Click **Next** to continue.



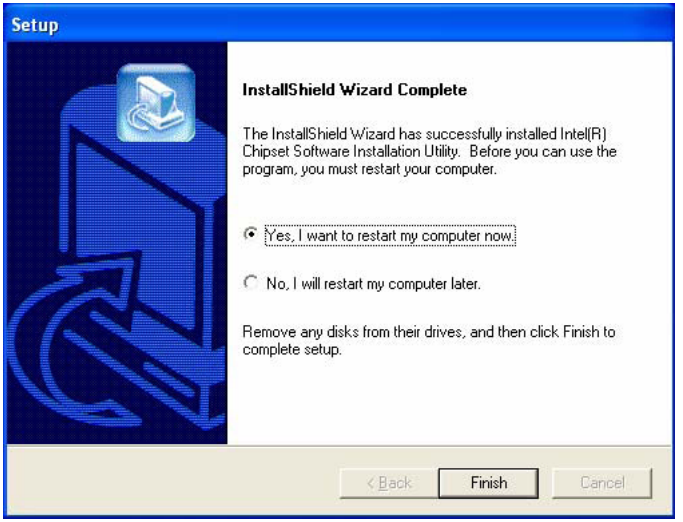
3. Read the license agreement, then click **Yes**.



4. Browse the ReadMe Information, then click Next.



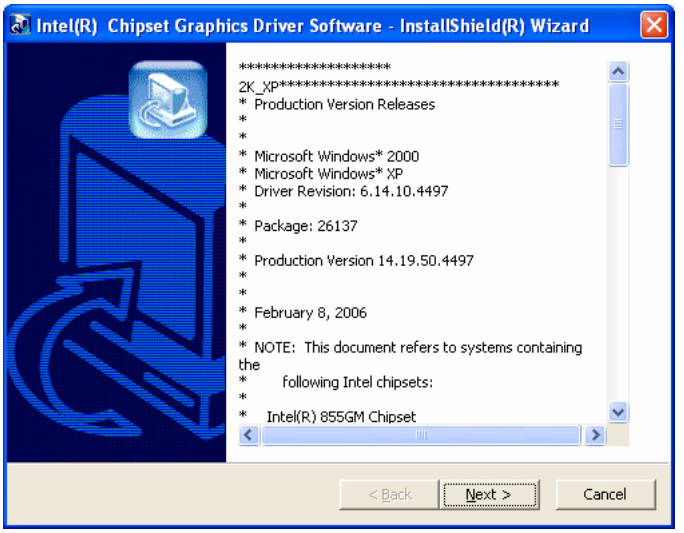
5. The Intel Chipset Software Utility files are installed to the system. When prompted to restart, select **Yes, I want to restart my computer now.** Then click **Finish** to restart the system.



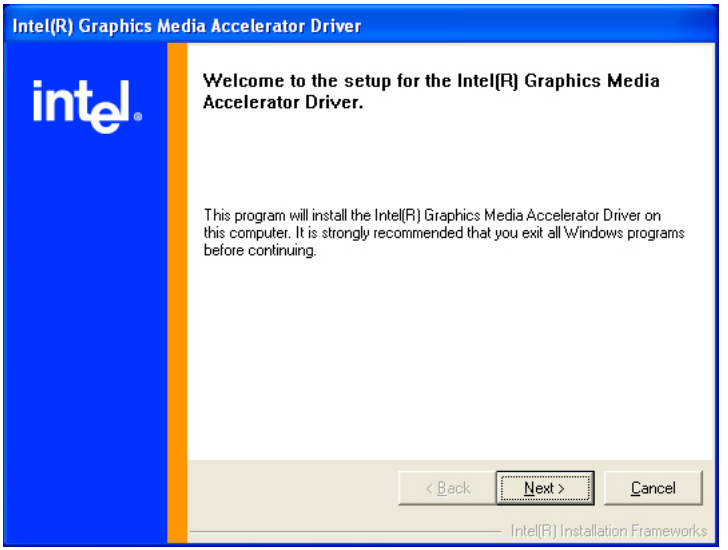
Intel Chipset Graphics Driver

This utility installs the Intel Extreme Graphics 2 drivers for Windows XP/2000. To install the drivers.

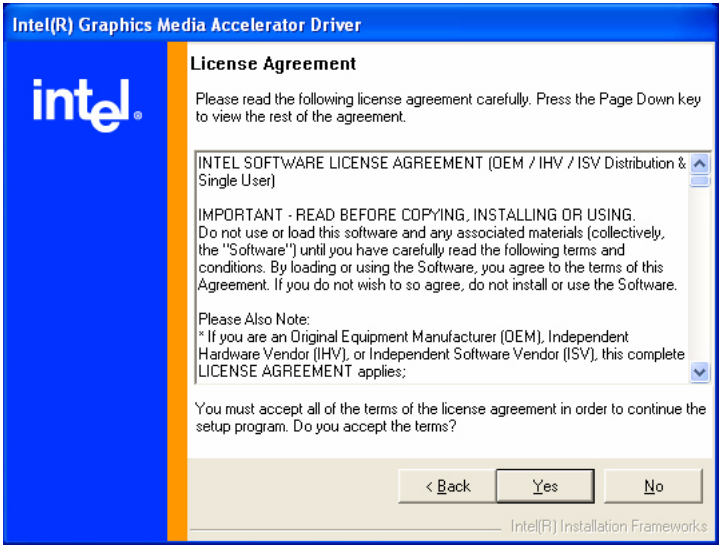
1. Browse to the \DRIVER\VGA\intel\Win2K_XP folder.
2. Double-click the executable file. The following screen appears. Read the release version, and then click **Next**.



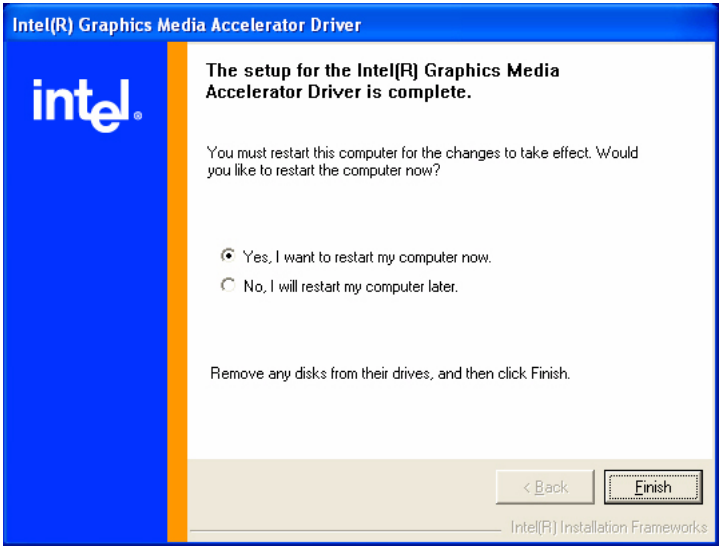
3. Click **Next** to continue.



4. Read the License Agreement, then click **Yes** to begin installation.



5. When installation is completed, select **Yes, I want to restart my computer now.** Then click **Finish** to restart the system.

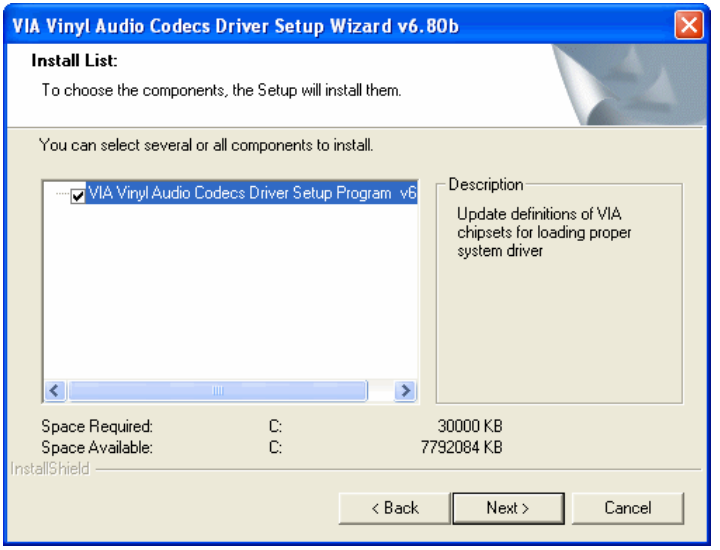


VIA Audio Driver

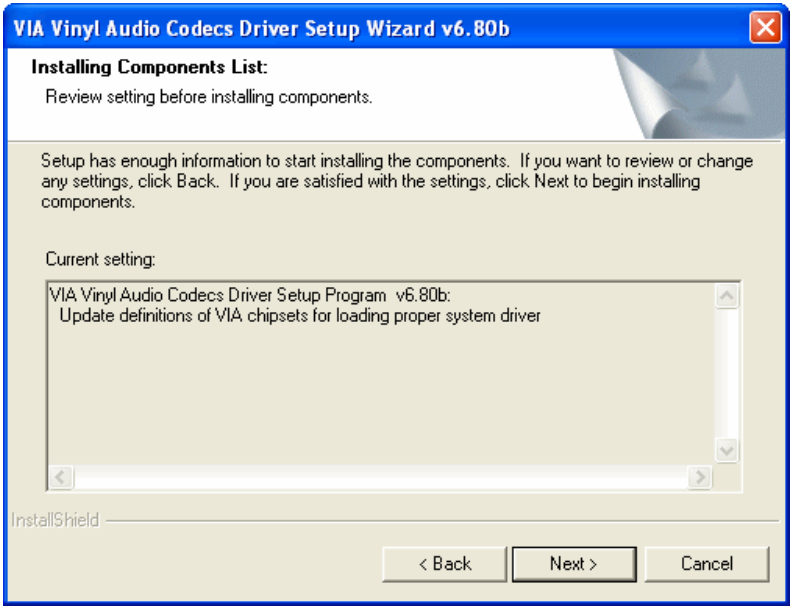
Refer to the following to install the VIA Vinyl Audio Driver.

1. Browse to the **\DRIVER\SOUND\VIA** folder.
2. Double-click **SETUP.exe**. The following screen appears.
3. Select **Install/Update** and then click **Next** to continue.

4. Check all the options and then click **Next.**



5. Click **Next** to continue.



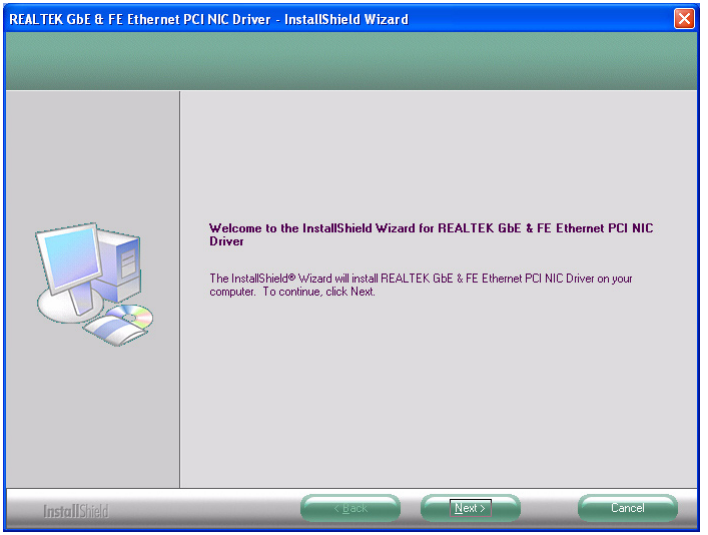
6. Click **Next** to continue

7. Select **Yes, I want to restart my computer now** and then click **Finish**.

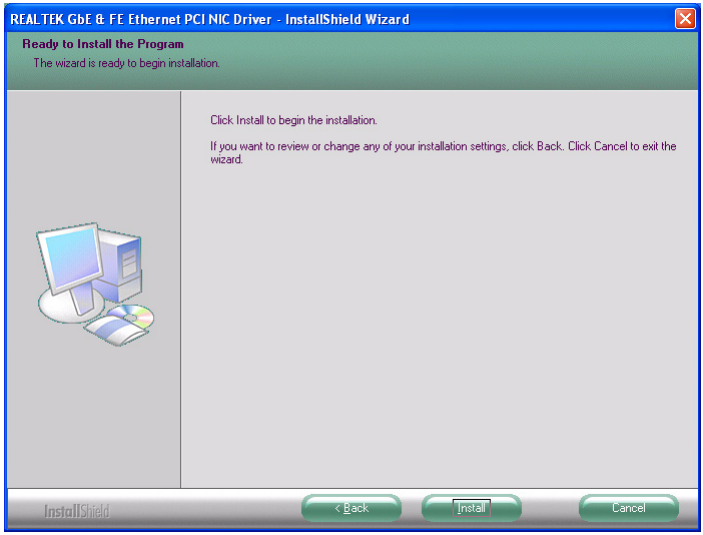
LAN Driver

The network driver support Windows XP/2000. Refer to the following to install the drivers.

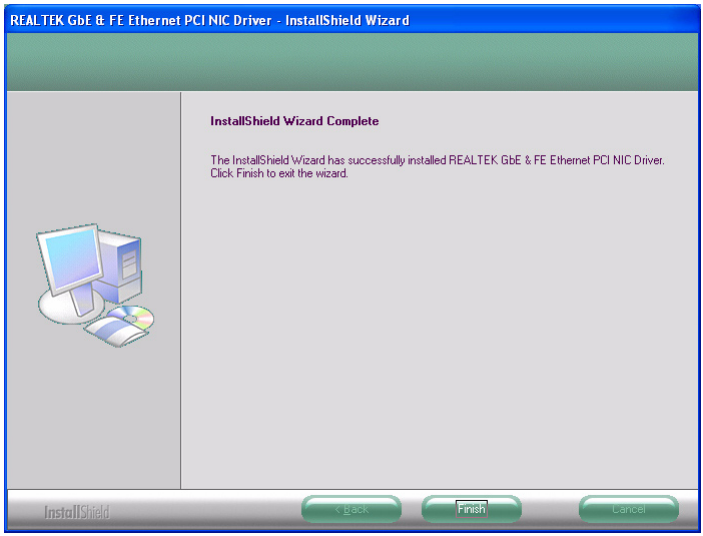
1. Browse to the \DRIVER\LAN\RealTek folder.
2. Double-click the executable file. The following screen appears. Click **Next** to continue.



3. Click **Install** to begin installation.



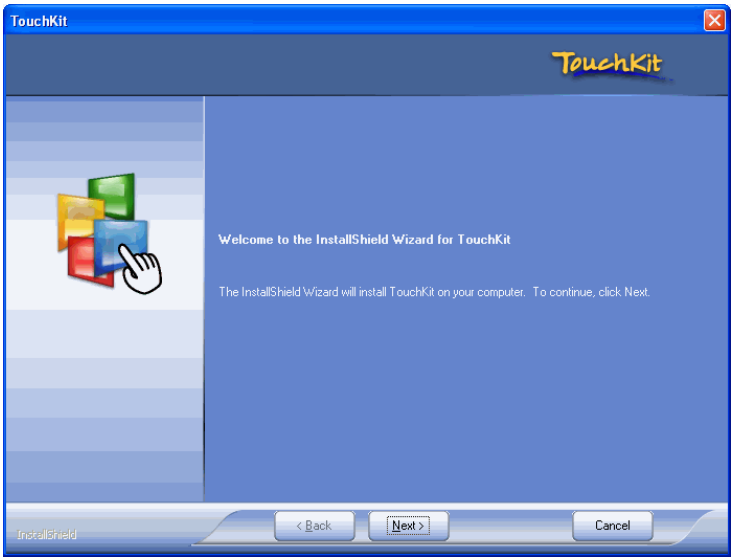
4. When installation is completed, click **Finish**.



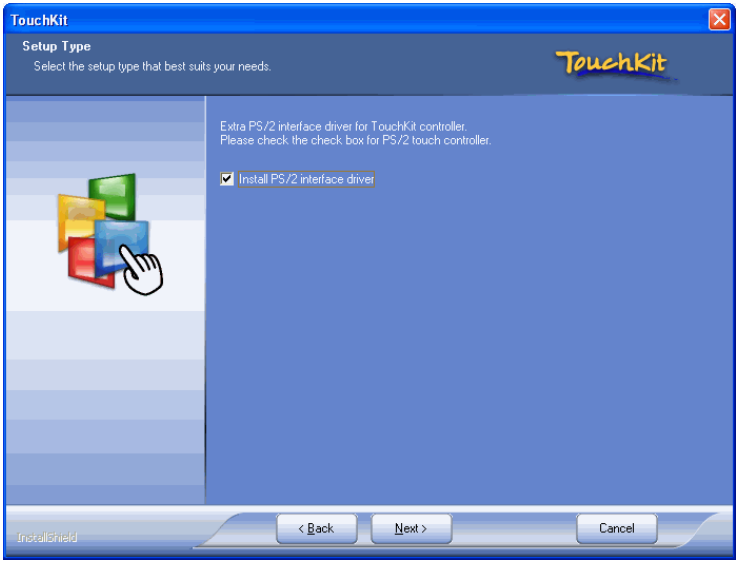
Touch Screen Driver

Refer to the following to install the touch screen driver.

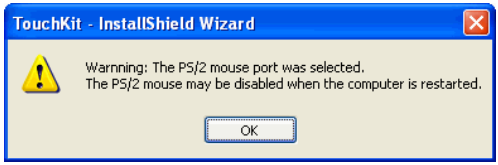
1. Browse to the \DRIVER\Touch\eGalax folder.
2. Double-click setup.exe. The following screen appears. Click **Next** to continue.



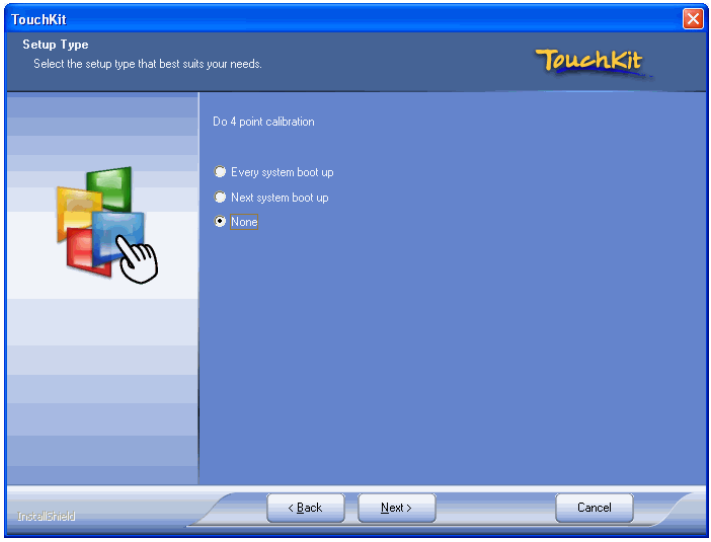
3. Check the box for **Install PS/2 interface drive** and then click **Next** to continue.



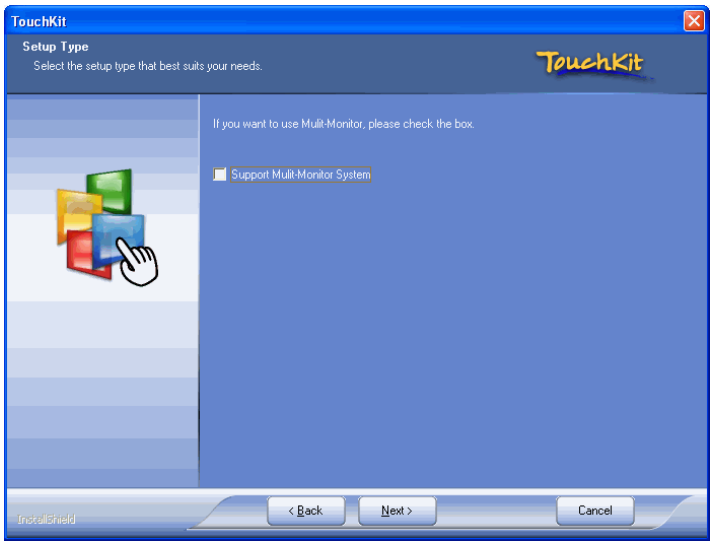
4. System will give you a warning, click **Ok** to continue.



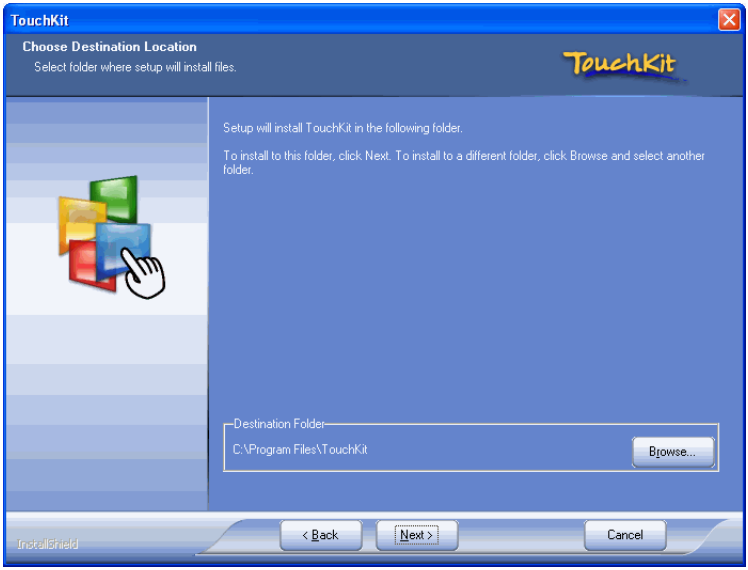
5. Check the box for **None** and then click **Next** to continue.



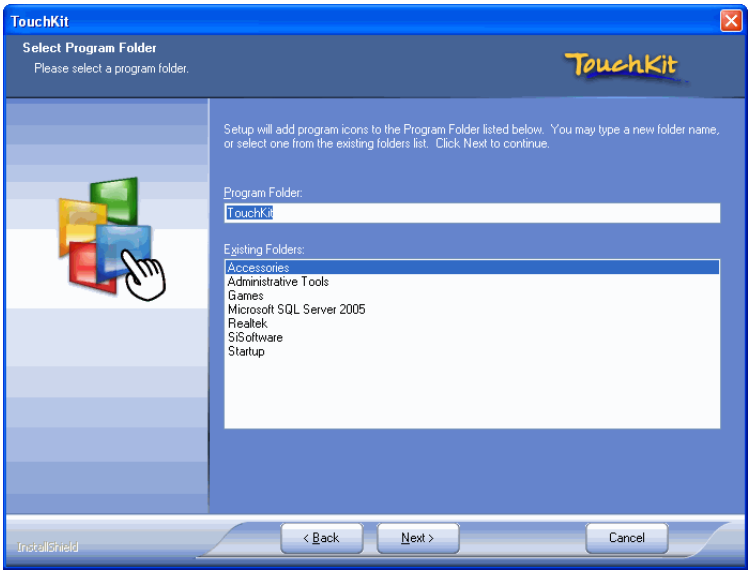
6. Uncheck the box for **Support Mulit-Monitor System** and then click **Next** to continue.



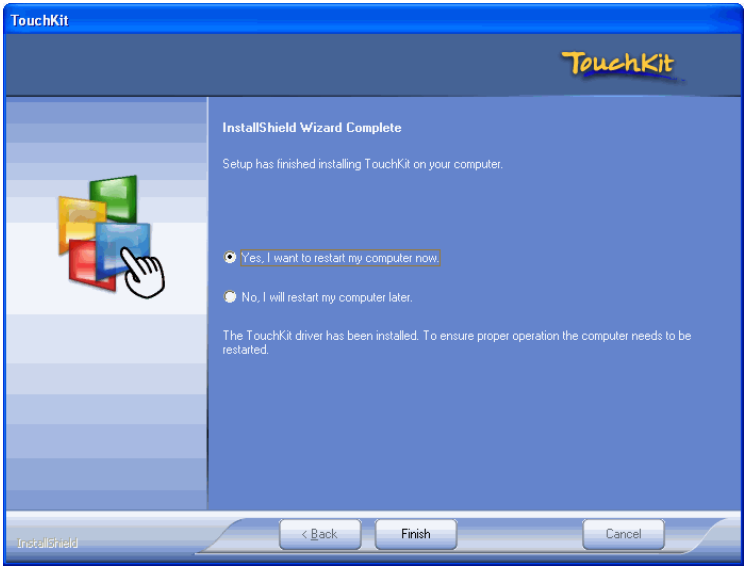
7. Click **Next** to continue.



8. Click **Next** to continue.



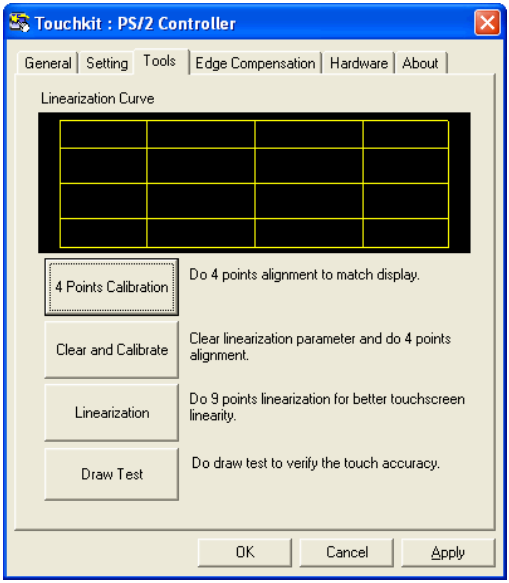
9. Click **Yes, I want to restart my computer now** and then click **Finish**.



Calibrating the touchscreen

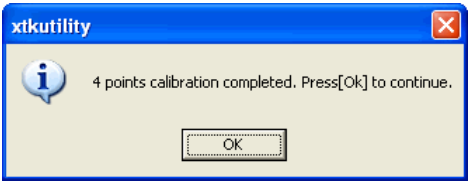
Follow these instructions to calibrate the touchscreen using the TouchKit application:

1. Launch the TouchKit application from the Windows desktop by clicking on **Start > Programs > TouchKit > Configure Utility**. The TouckKit window appears.
2. Select the **Tools** page.



3. Click the **4 Points Calibrattion** button.
4. Use your finger to touch the blinking X Symbol on the screen until stop blinking.

5. Click **OK** to complate the 4 points calibration.



NOTE

You may also use this application to adjust the touch settings.

CHAPTER 4
LOCATING THE PROBLEM

Refer to this section to locate the problem with the machine. The following topics are described.

General checkout guidelines

Use the following procedure to troubleshoot problems:

- Identify as many symptoms as possible in detail.
- Verify symptoms by recreating them.
- Follow the corrective procedures in order.
- If you replace an FRU and the symptom remains, reinstall the original FRU before going to the next step. Do not replace non-defective FRUs.

Cash drawer checkout

Refer to the following to check for a cash drawer problem.

IMPORTANT

The cash drawer RJ-11 connector is DC+24V. Ensure the cash drawer to be connected matches this power specification.

1. Connect the RJ-11 cable from the cash drawer to the RJ-11 connector on the machine as shown in Figure 4.1.

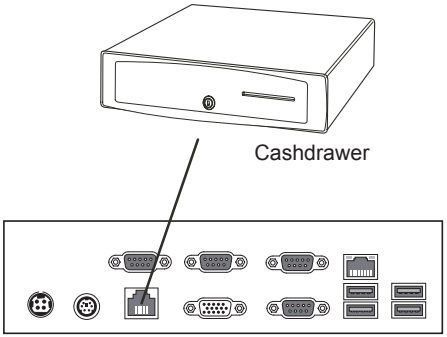


Figure 4.1 Connecting a cash drawer

2. Turn on the machine .

Refer to the following to prevent incorrect cash drawer status detection by the system:

Port	I/O Port Address	Bit	Condition	Note
Control port	40B9	3	High(1) → Close Low(0) → Open	If bit7 is set to Low to open the cash drawer, after it must be set back to High to prevent the system as always detecting the drawer as open.
Status port	40B9	2	High(1) → Close Low(0) → Open	

LCD symptoms

Symptom	Corrective Procedure
• LCD backlight is not working but text is still visible on screen	1. Reseat the LCD cable. 2. Reseat the inverter cables. 3. Replace the inverter cables. 4. Replace the inverter.
• LCD backlight is working but text is not visible on screen	1. Reseat the LCD cable. 2. Reseat the inverter cables. 3. Replace the LCD.
• LCD screen is garbled • Characters are missing pixels • Screen is distorted • Screen displays wrong color • Screen displays extra vertical/horizontal lines	1. Reseat the LCD cable. 2. Replace the inverter cables. 3. Replace the LCD panel. 4. Replace the mainboard.

Touch screen symptoms

Symptom	Corrective Procedure
• Touchscreen does not function • No virtual mouse • Cursor doesn't follow when touching the screen	1. Install and run the touchscreen calibration program from the driver CD. 2. Reseat the panel cable. 3. Reseat the touchscreen board-to-touch panel cable. 4. Replace the touch control board. 5. Replace the touch panel.

Power symptoms

Symptom	Corrective Procedure
• Power shuts down unexpectedly • Cannot turn the system on	1. Reseat the power AC adapter cable. 2. Reseat the power AC adapter. 3. Replace the mainboard.
• Cannot turn the system off	1. Hold down the power button for four seconds. 2. Replace the mainboard.

Network symptoms

Symptom	Corrective Procedure
• Cannot access LAN	1. Confirm that network hub/switch (if present) is functioning correctly. 2. Reseat the RJ-45 cable. 3. Confirm green and orange LED activity of the RJ-45 jack. 4. Check the network TCP/IP settings. 5. Remove and reinstall the driver. 6. Replace the network cable. 7. Replace the mainboard.

USB symptoms

Symptom	Corrective Procedure
• USB device does not function	1. Check that the USB device is detected in Windows Device Manager. 2. Reinstall the USB device driver. 3. Replace the mainboard.

Peripheral-device symptoms

Symptom	Corrective Procedure
• USB ports do not work • COM ports do not work	1. Reseat the I/O cable. 2. Reinstall the drivers. 3. Replace the mainboard.

Boot symptoms

Symptom	Corrective Procedure
• System continually reboots on power up	1. Restore the BIOS defaults. 2. Remove all I/O device drivers, then reinstall the drivers one by one. 3. Reseat the SATA cable. 4. Reseat the memory card. 5. Reseat the power adapter. 6. Replace the mainboard.

Mainboard jumper settings

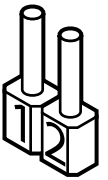
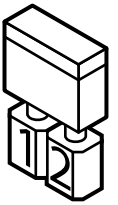
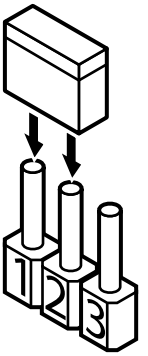
Before replacing the mainboard, ensure that the problem is not due to an incorrect jumper setting or a loose connection.

Setting a jumper

The mainboard jumpers are to set system configuration options. When setting the jumpers be sure the shunts (jumper caps) are placed on the correct pins.

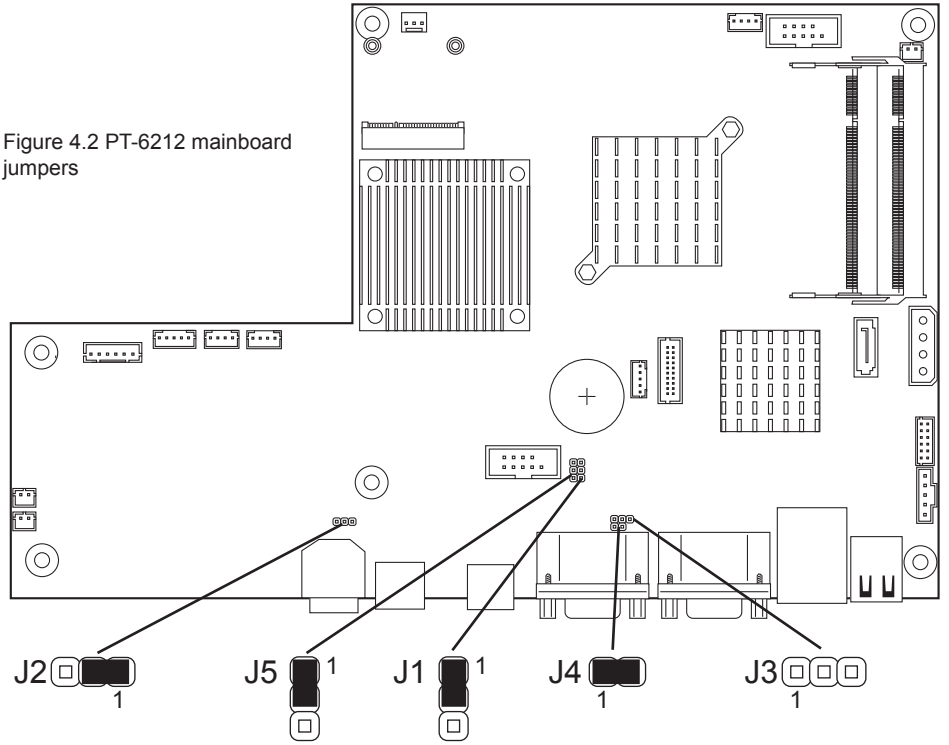
CAUTION

Ensure that the system is turned off before you change a jumper setting. Otherwise, damage to the system or unpredictable results may occur.

This 2-pin jumper is Open.	
This 2-pin jumper is Closed.	
This 3-pin jumper is Closed on pins 1 and 2.	

Mainboard jumpers

Figure 4.2 PT-6212 mainboard jumpers



Jumper	Setting	Description
J1		
J2		
J3		
J4		
J5		

Mainboard connectors

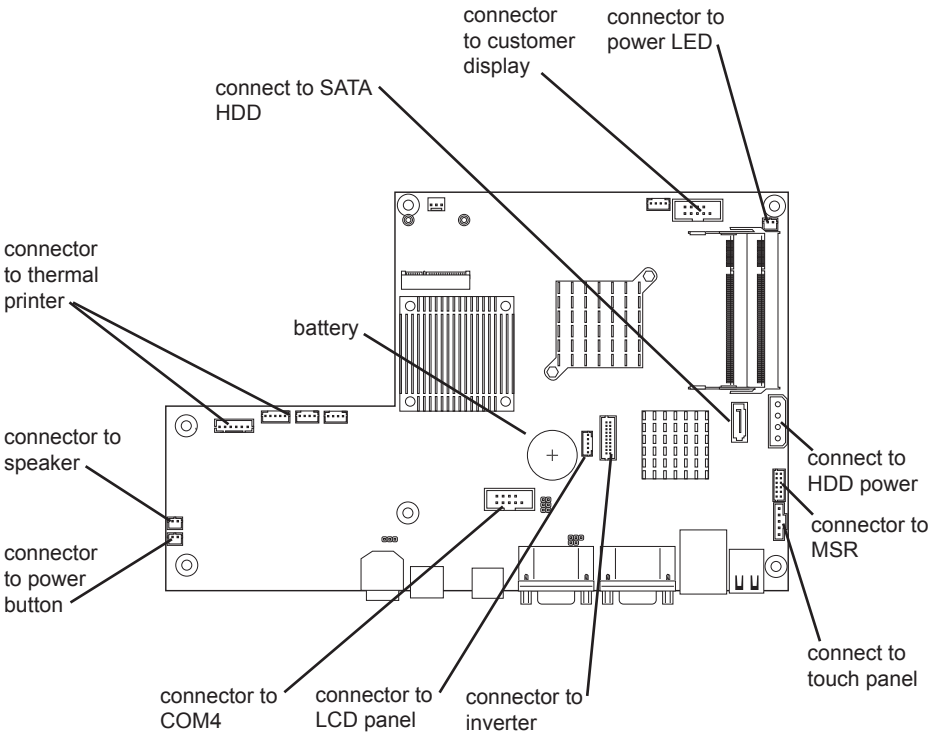


Figure 4.3 PT-6212 mainboard connectors

Inverter connectors

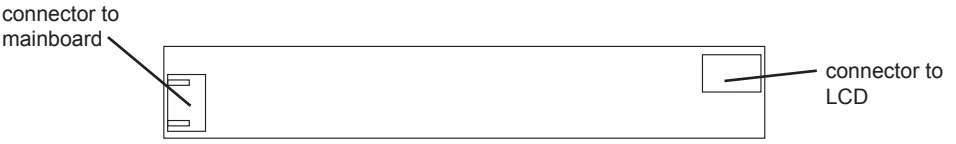


Figure 4.4 Inverter connectors

CHAPTER 5
REPLACING FIELD REPLACEABLE UNITS (FRUs)

This chapter provides instructions for replacing FRUs. The following topics are described.

Safety and precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous. Follow these guidelines to avoid damage to the computer or injury to yourself.

- Always disconnect the unit from the power outlet.
- Leave all components inside the static-proof packaging that they ship with until they are ready for installation.
- After replacing optional devices, make sure all screws, springs, or other small parts are in place and are not left loose inside the case. Metallic parts or metal flakes can cause electrical shorts.

CAUTION

Only qualified personnel should perform repairs on the PT-6212. Damage due to unauthorized servicing is not covered by the warranty.

CAUTION

If the LCD breaks and fluid gets onto your hands or into your eyes, immediately wash with water and seek medical attention.

CAUTION

Under no circumstances touch the inverter while power is connected to the machine. Unplug the power cord before attempting to replace any FRU.

CAUTION

To prevent static damage to components, wear a grounded wrist strap. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.

CAUTION

Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress the circuit board. Do not hold components such as a processor by its pins; hold it by the edges.

Before you begin

Make sure you have a stable, clean working environment. Dust and dirt can get into the PT-6212 components and may cause malfunction. Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the electrical and mechanical connections can be disconnected by using your fingers. It is recommended that you do not use needle-nosed pliers to disconnect connectors as these can damage the soft metal or plastic parts of the connectors.

CAUTION

To prevent scratching the case of the PT-6212, make sure the worktop surface is clean and flat. If you need to put the display facing down, be sure to use a foam mat.

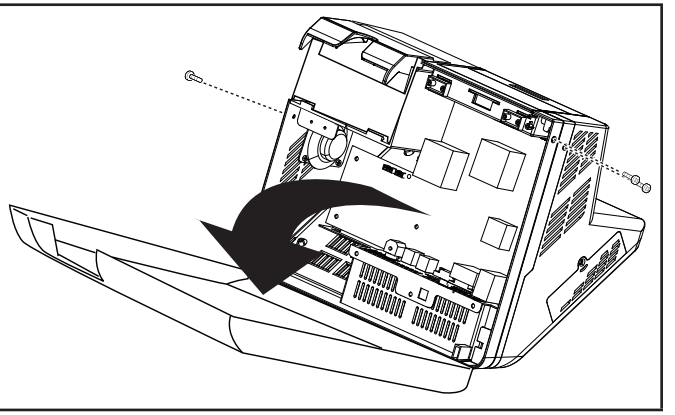
Replacing parts

Take note of the following when replacing parts:

- If you replace an FRU and the symptom remains, reinstall the original FRU before going to the next step. Do not replace non-defective FRUs.
- When replacing a malfunctioning component, other parts that have to be removed before the failing part are listed at the top of the page.
- The arrows in the following procedures show the direction of movement to remove/replace a part, or to turn a screw or key to release a device.
- Always use the correct screw size as indicated in the procedures.
- Always use new screws.
- To replace a part, reverse the removal procedure.

Front Panel

1. Remove the three screws.
2. Open the front panel.

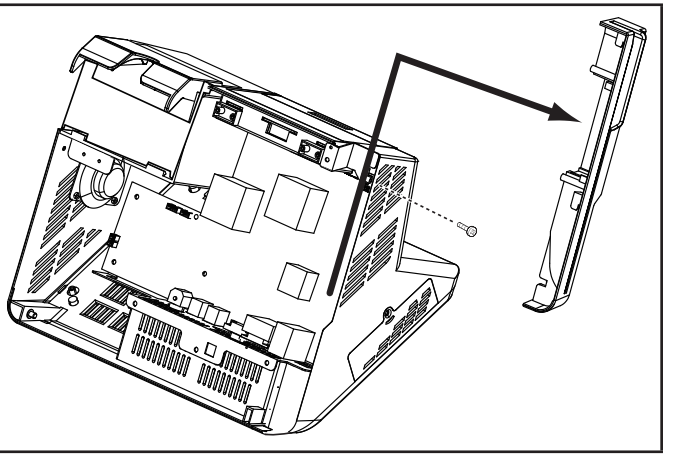


MSR

Before proceeding, remove the following FRUs.

- "Front Panel" on page 55.

1. Disconnect the cables.
2. Remove the screw.
3. Slide up and remove the MSR.

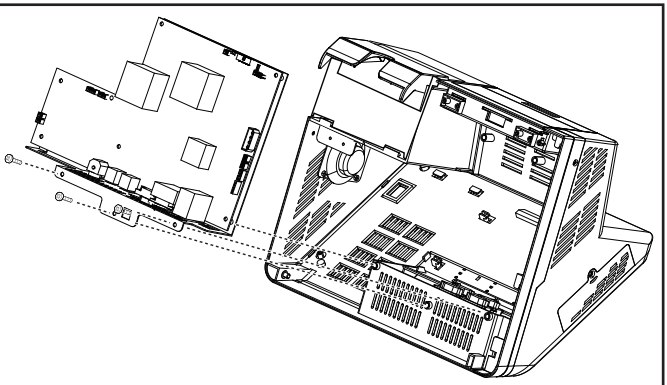


Mainboard

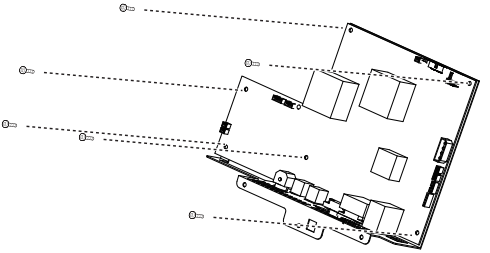
Before proceeding, remove the following FRUs.

- "Front Panel" on page 55.

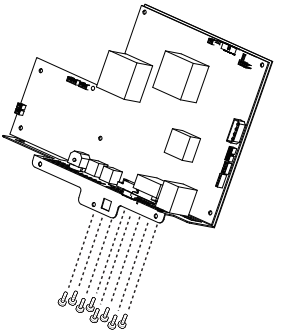
1. Disconnect the cables on the mainboard.
2. Remove the three screws from the mainboard tray.
3. Remove the mainboard tray.



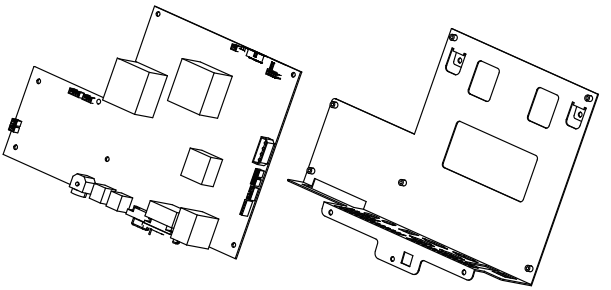
4. Remove the 6 screws from the mainboard.



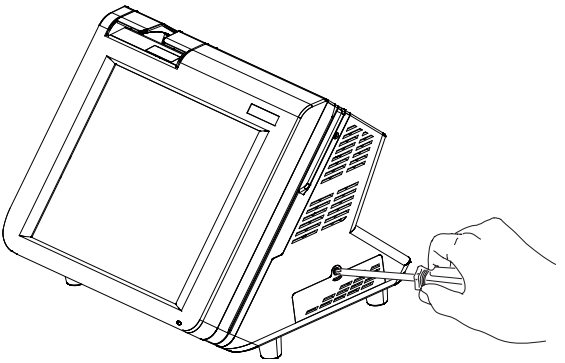
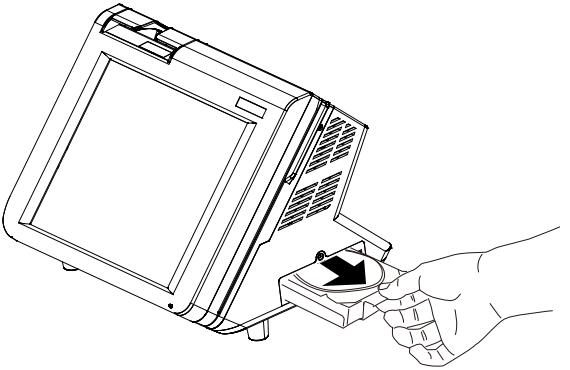
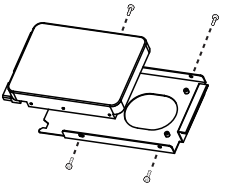
5. Remove the screws from the mainboard I/O panel.



6. Remove the mainboard.

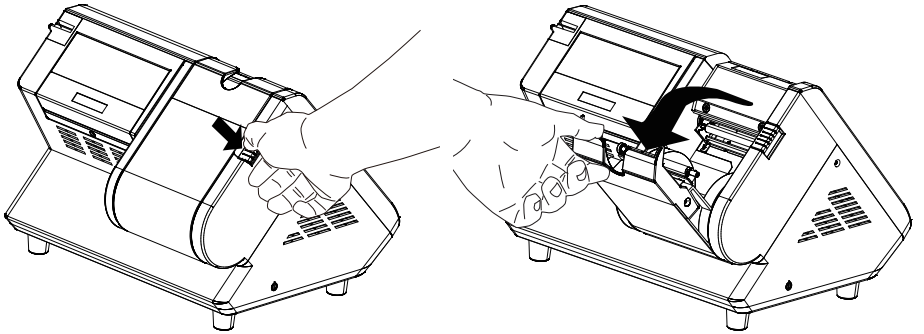


Hard drive

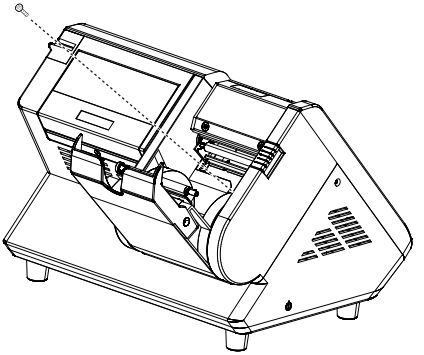
1. Remove the screw.	
2. Pull out the hard drive tray. 3. Disconnect the power cable and data cable from the hard drive.	
4. Remove the four screws, then remove the hard drive out from the tray.	

Thermal Printer

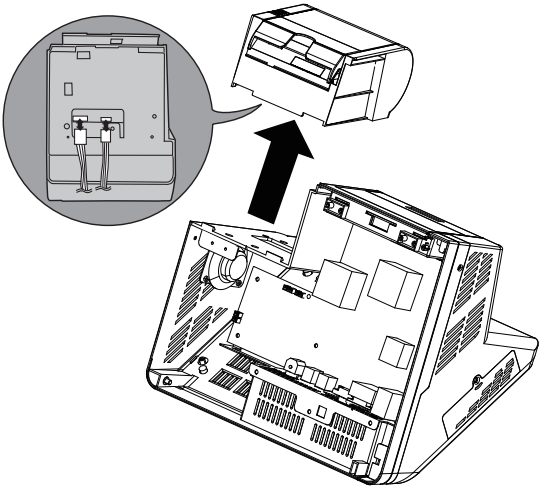
1. Press the release and open the printer cover.



2. Find the screw in the center of the printer.
3. Remove the screw.

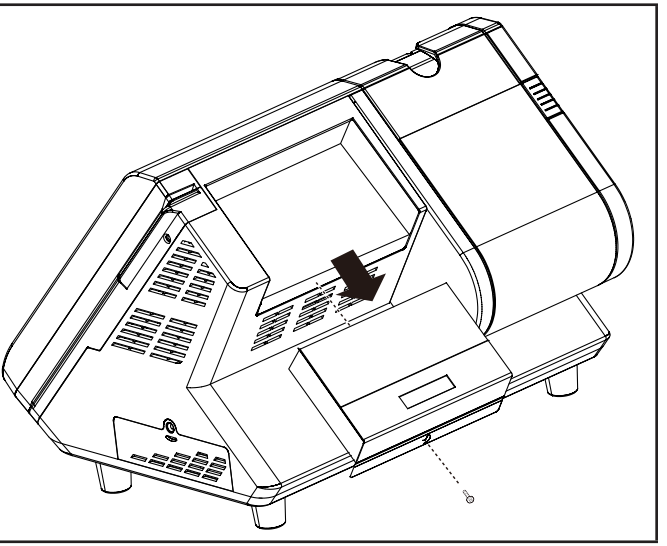


4. Disconnect the cables.
5. Remove the printer.



Customer Display

1. Remove the screw.
2. Disconnect the cables from the mainboard.
3. Slide out the customer display.

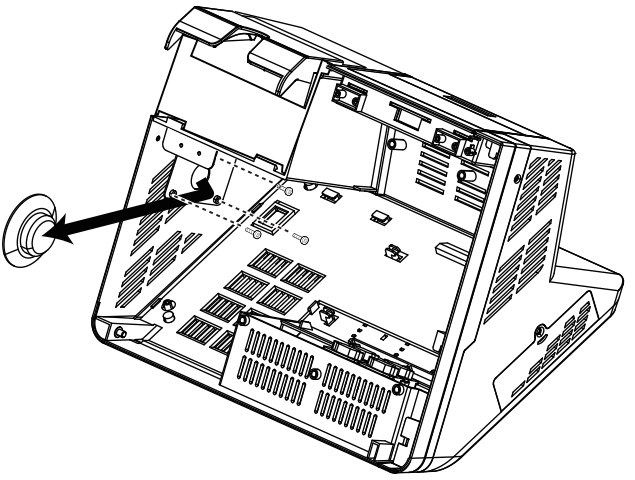


Speaker

Before proceeding, remove the following FRUs.

- “Front Panel” on page 55.
- “Mainboard” on page 56.

1. Disconnect the cables on the mainboard.
2. Remove the three screws from the speaker bracket.
3. Remove the speaker.

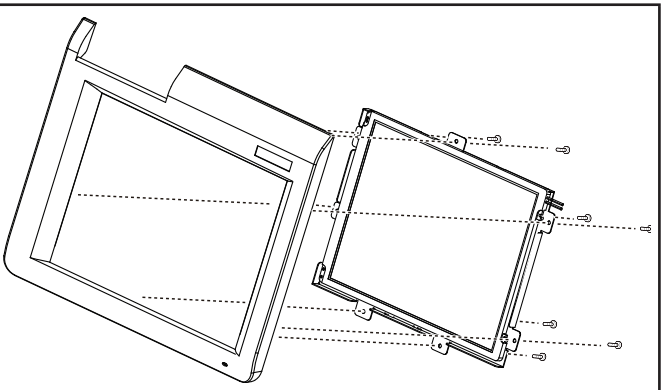


LCD Panel

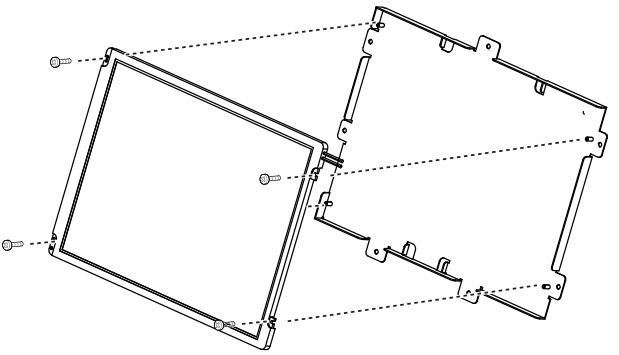
Before proceeding, remove the following FRUs.

- "Front Panel" on page 55.

1. Disconnect the cable on the mainboard.
2. Remove the seven screws from the LCD panel tray.
3. Remove the tray.



4. Disconnect the cable from the inverter.
5. Remove the four screws.
6. Remove the LCD panel.

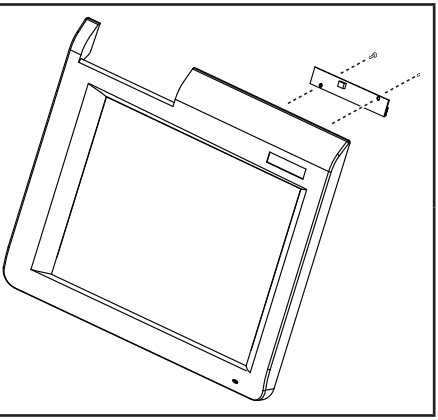


Inverter

Before proceeding, remove the following FRUs.

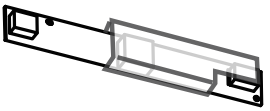
- "Front Panel" on page 55.

1. Disconnect the cable from the LCD panel.
2. Remove the two screws.
3. Remove the inverter.



When replacing:

Put the inverter in the plastic cover before replacing it.

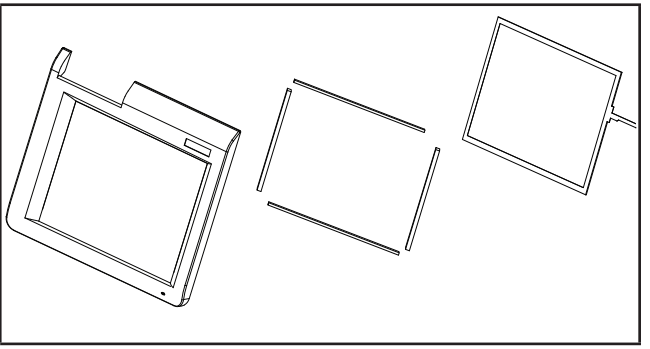


Touch Panel

Before proceeding, remove the following FRUs.

- "Front Panel" on page 55.
- "LCD Panel" on page 60.

1. Remove the touch panel.
2. Remove the 4 waterproof sticks.

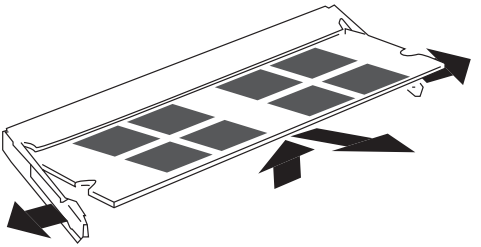


Memory

Before proceeding, remove the following FRUs.

- "Front Panel" on page 55.

1. Pop out the two silver latches holding the memory module into place. The module pops up.
2. Grasp the outer edges of the memory module with thumb and forefinger, and then gently remove it.

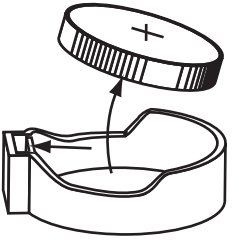


Battery

Before proceeding, remove the following FRUs.

- "Front Panel" on page 55.

1. Open the hock.
2. Pull out the battery.



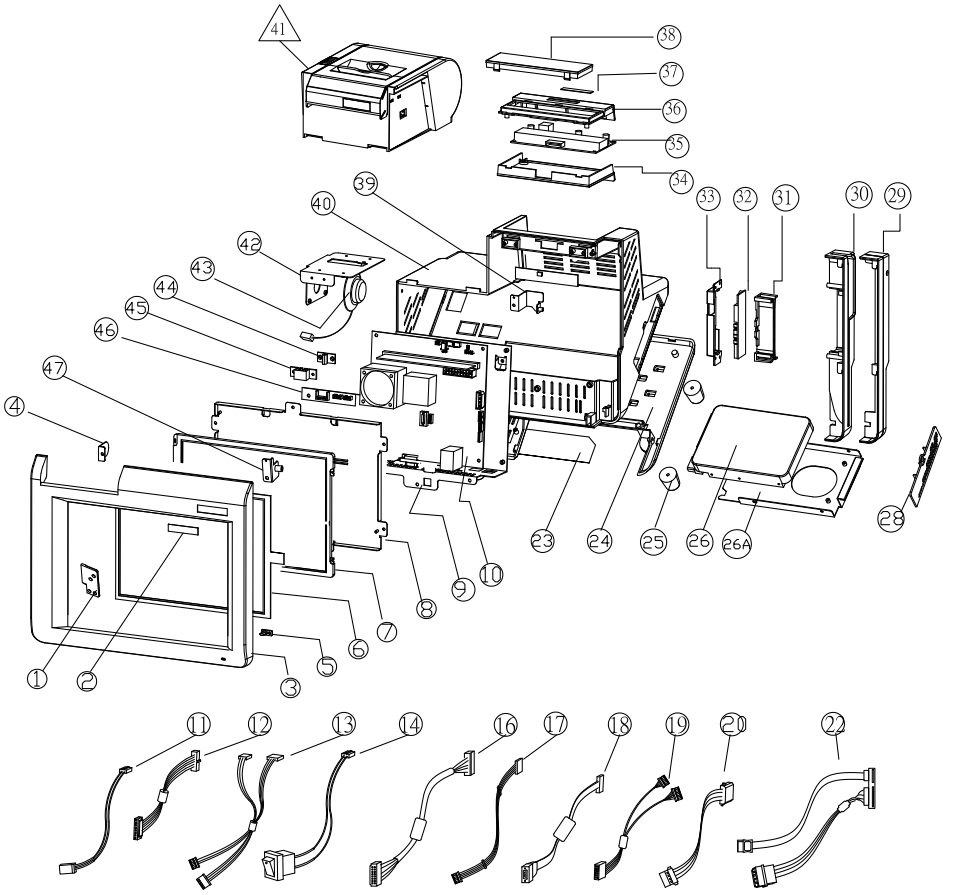


Figure 6.1 Exploded diagram main parts

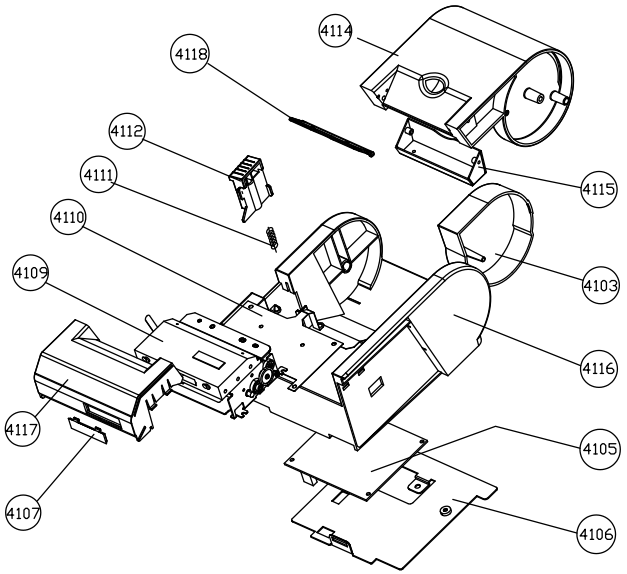


Figure 6.2 Exploded diagram printer parts

Part list for Charcoal PT-6212

NO.	DESCRIPTION	ITEM NO
1	Link Body	25003500H1300
2	Logo	21004500H6000
3	Front bezel	25000500H1300
4	LCD bracket (1)	21004500H6002
5	LED	25003500H6001
6	Touch Panel	2619040100004
7	TFT LCD	2614551121002
8	LCD bracket (2)	21004500H1000
9	MB bracket	21004500H1001
10	Main Board PCB(B)	700500H102000
11	LED Cable	1721203170005
12	VFD Cable	1721217010017
13	Print Cable	1721217170227
14	Switch Cable	1721224170000
16	LCD Cable	1721217230002
18	COM Cable	1721211090009
19	MSR Cable	1721317171714
20	HDD Power Cable	1721300282802
22	SATA Cable (B)	1721328002800
23	Safety Label	23057500H6000
24	Base plastic	25002500H6302
25	Rubber feet	2509030500J01
26	HDD	2611530108005
26A	3.5”HDD bracket	21004500H6008
28	HDD COVER	25003500H6312
29	MSR gap cover	25003500H6307
30	MSR cover	25000500H6316
31	MSR TK1+2+3 GIGA	2690605100011
32	MSR PCB	7005000001010
33	MSR base	25002500M2001
34	Display base VFD	25002500H6303
35	VFD PCB	700500H603000
36	Display cover VFD	25000500H6309
37	Logo(VFD)	21004500H6100

NO.	DESCRIPTION	ITEM NO
38	Display windowVFD	25073500H6000
39	MSR bracket	21004500H6004
40	Main Body plastic	25000500H6307
41	Print	770500H640000
42	Speaker bracket	21004500H6005
43	Speaker	1370800000000
44	Door lock(male)	2509020500H05
45	Door lock(female)	2509020500H04
46	INVERTER	2614571121000
47	MSR rotate plate	21004500H6010
4114	PRINT-TOP	25000500H6313
4115	Roller holder	21004500H6012
4103	PRINT-COV-1	25003500H6404
4116	PRINT-BS-TOP	25000500H6314
4105	LK-60M-ASSY-ASM	2108000000020
4106	Arm base	21002500H6000
4107	PRINT-COVER-PLUG	25003500H6403
4117	PRINT-COVER	25003500H6314
4109	EMI bracket	21004500H6007
4110	LK-60M-ASSY-ASM	2108010000090
4111	Spring	2108230000000
4112	Button + Open Printer Lid	25003500H6500
4118	PRINT-LID	25003500H6315
4113	PRINT-LID	25003500H6000

Specifications

LCD	12.1” TFT-LCD, resolution is 1024 x 768
Touch	5-wire Resistive touch (PS/2 interface)
CPU	Intel Celeron-M Processor @ 1GHz, FSB 400MHz, fanless design
Chipset	NB - Intel 910GMLE SB - Intel ICH6-M
Memory	200-pin DDR2 SO-DIMM x 2 , Systme ships with 1G as the standard
BIOS	Award System BIOS, 4M bits flash ROM
Graphics	Integrated Intel® Graphics Media Accelerator 900 (Intel® GMA 900) On board LVDS connector for LCD support Default 8MB shared system memory
Ethernet	Realtek Giga LAN
Audio	VIA Two-channel AC’97 2.3 Audio Codec
HDD	Internal 3.5” type SATA HDD 80GB or above
I/O Interface	4 * COM ports 1 * VGA port 1 * RJ11 port for cash drawer(+24V) 1 * PS2 Keyboard port, auto routing for MSR, no jumper 1 * RJ-45 LAN port with activity and link LEDs 4 * USB ports 1 * DC +12V power adaptor connector
Preipherals	Tripple-track MSR (PS/2 interface) Customer display module (serial interface) 3” Thermal receipt printer with cutter + control board (serial interface)
Operation System	POSReady 2009/WEPOS/Windows 2000//CE. Net/Linux
Power Supply	AC110V~240V/DC12V/12.5A 150 watt power adaptor
Operating Temperature	0~+40˚C
Storage Temperature	-20˚C~+60˚C
Operating & Storage Humidity	15%~80%
Dimension	Physical:328mm (W) x 289.3mm (D) x 246.8mm (H)
Color	White or Dark Charcoal
Certification	CE, FCC, UL, CUL, CB, VCCI, BSMI, 3C,